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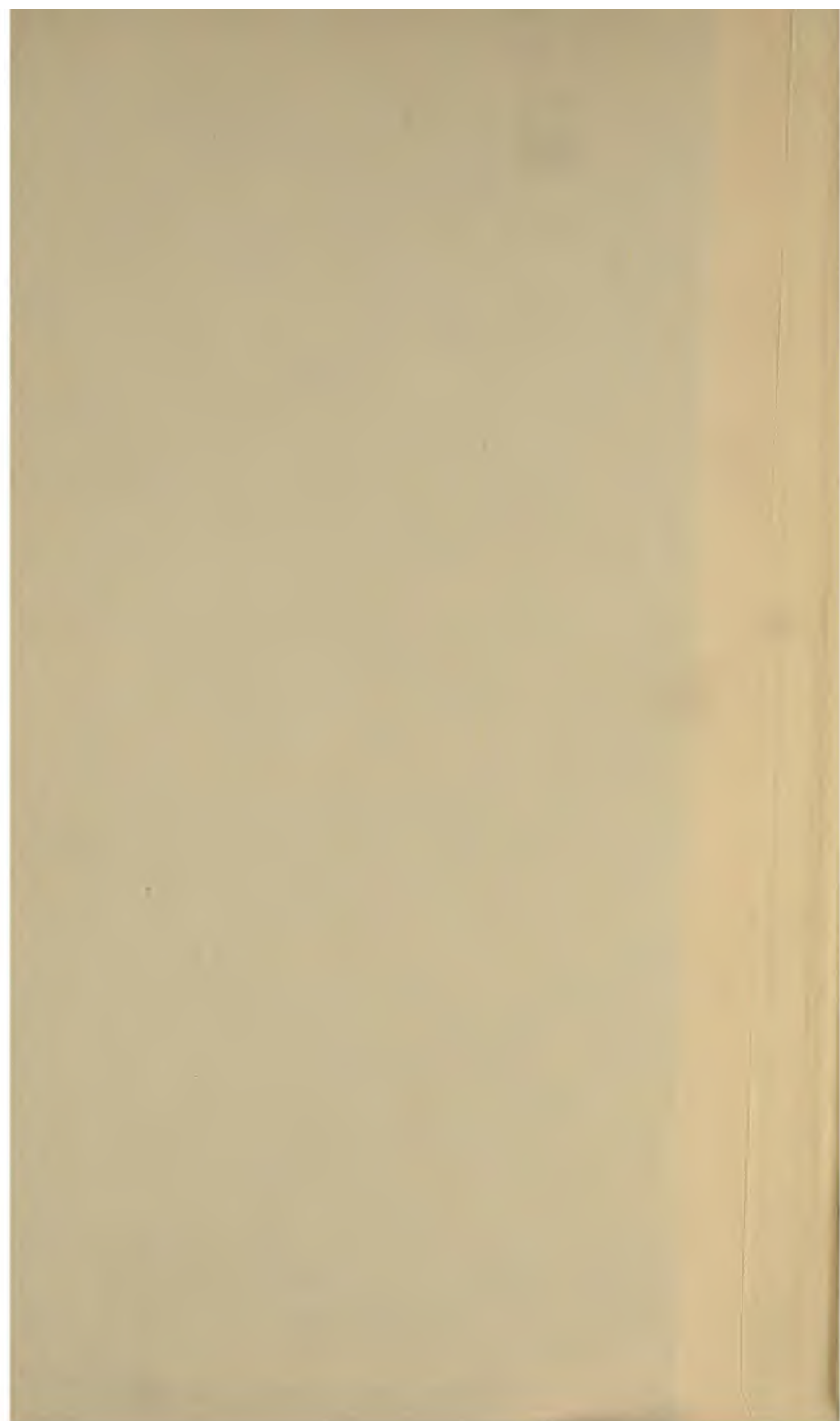
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THE
MINING WORLD INDEX
of Current Literature

VOL. X

LAST HALF YEAR

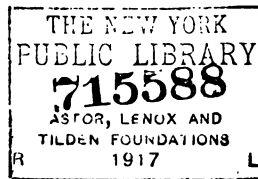
1916

By GEO. E. SISLEY
Associate Editor
Mining and Engineering World

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JOHN VAN
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PREFACE

As in previous volumes the world's literature on mining, metallurgy and kindred subjects appearing in periodical magazines published in America, Europe, Africa and Australia, have been arranged in classified form. These articles cover mining, engineering, metallurgy, geology, mineralogy, etc. There is also included papers read before institutes and affiliated engineering and technical societies, as well as reports of Federal and State Geological Surveys and Mining Bureaus at home and abroad, and new books. By the system of cross-indexing adopted what is wanted on any mining or affiliated subject is readily found. A brief digest of all articles is given so that a general idea of the article may be obtained. Where more than one author occurs the first-named appears in alphabetical arrangement; the other or others will be found by referring to the authors' index.

In the search for some particular article covering a certain subject it should be remembered that when reference of any importance is made in that article to more than one subject, the article will be indexed under the different subjects. Careful thought is given to the arrangement of subjects and the classifying of same, and the author would be glad to receive any criticism or suggestion, the adoption of which would make the book of more value to the busy man.

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A

Acetylene Journal.
African World.
Alabama Geological Survey.
Alaska & Northwest Mining Journal.
All-Alaska Review.
Allianza, Mexico.
American Ceramic Society.
American Chemical Society.
American Electrochemical Society.
American Fertilizer.
American Foundrymen's Association.
American Industries.
American Institute of Chemical Engineers.
American Institute of Electrical Engineers.
American Institute of Metals.
American Institute of Mining Engineers.
American Iron & Steel Institute.
American Journal of Science.
American Metal Society.
American Mining Congress.
American Museum of Safety.
American Peat Society.
American Portland Cement Manufacturers.
American Railway Engineering Association.
American Society of Civil Engineers.
American Society of Engineering Contractors.
American Society of Mechanical Engineers.
American Society of Naval Engineers.
American Wood Preservers' Association.
Annales de Mines, France.
Anode.
Argentine Sociedad Cientifica.
Arizona Mine Inspector.
Arizona State Bureau of Mines.
Arizona State Geological Survey.
Arkansas Bureau of Mines.
Arkansas Geological Survey.
Association of Engineering Societies.
Association of Mining Electrical Engineers, England.
Association of Railway Electrical Engineers.
Atti del Colegro degli Ingenerio Ed Architetti.
Australian Coal & Iron Trade Review, Sydney.
Australasian Institute of Mining Engineers.
Australian Mining Standard, Melbourne.

B

Belgium Annales des Mines.
Berg, Hütten & Salinenwesen in preussischen Staaten, Germany.
Berg- und Huttenwesen, Germany.
Berg- und Hüttenmännische Rundschau, Kattowitz, Germany.
Berg und Hüttenm. Jahrb, Leoben-Pribram.
Bergbau, Germany.
Bergrecht, Germany.
Bergwerks-Zeitung, Germany.
Bergwerkschaftliche Mitteilungen, Germany.
Birmingham Metallurgical Society, England.
Bitumen, Germany.
Black Diamond.
Bolivia Geological & Geographical Boletin.
Braunkohle, Germany.
Brick & Clay Record.

British Columbia Bureau of Mines.
British Columbia Mining Exchange & Engineering News, B. C.
British Guiana Institute of Mines and Forests.
British Institute of Metals.

C

Calro Scientific Society.
California Derrick.
California Miners' Association.
California State Mining Bureau.
Canada Department of Mines.
Canada Geological Survey.
Canadian Engineer.
Canadian Mining Institute.
Canadian Mining Journal.
Cassier's Magazine.
Cement.
Centralblatt der Hütten & Walzwerke, Berlin, Germany.
Chemical Engineer.
Chemical Metallurgical & Mining Society of South Africa.
Chemiker-Zeitung, Germany.
Chemiker & Techniker-Zeitung, Austria.
Chemist-Analyst.
Chile Institute de Ingenieros.
Cleveland Engineering Society.
Coal Age.
Coal Mining Institute of America.
Coal Trade Bulletin.
Coal & Coke Operator.
Colliery Guardian, London.
Colorado Geological Survey.
Colorado School of Mines.
Colorado Scientific Society.
Colorado State Bureau of Mines.
Colorado University.
Colombia Department de Antioquia.
Columbia School of Mines Quarterly.
Compressed Air Magazine.
Concrete-Cement Age.
Connecticut State Geological & Natural History Survey.
Cornwall Mining Association and Institute, England.
Cuerpo de Ingenieros de Minas del Peru, Peru.

D

Der Erzbergbau, Germany.
Deutsche Technik, Germany.
Die Fördertechnik, Germany.
Domestic Engineering.

E

Economic Geology.
Edinburgh Geological Society, Scotland.
Eisen Zeitung, Germany.
El Economista Mexicana, Mexico.
El Petrolero Mexicana, Mexico.
Electrical Engineer, London.
Electrical Review, London.
Electrical Review & Western Electrician.
Electrician, London.
Elektrochemie, Germany.

Electrotechnik & Maschinenbau, Austria.
 Elektroschemische Zeitschrift, Germany.
 Engineering Association of New South
 Wales, Australia.
 Engineering, London.
 Engineering Magazine.
 Engineering Review, London.
 Engineering & Contracting.
 Engineering & Mining Journal.
 Engineers' Club.
 Engineers' Society of Eastern Pennsylvania.
 Engineers' Society of Western Pennsylv-
 ania.
 English Ceramic Society, England.
 Excavating Engineer.

F

Faraday Society, London.
 Federated Malay States Mines Report.
 Fer et Acier, France.
 Ferrum, Aachen, Germany.
 Florida State Geological Survey.
 Fördertechnik, Germany.
 Foundry.
 Franklin Institute.
 Fuel Oil Journal.

G

General Electric Review.
 Geological Society of America.
 Geological Society of Tokyo, Japan.
 Geological Society of Washington, D. C.
 Georgia Geological Survey.
 Gesamte Schiss & Sprengstoffwesen, Ger-
 many.
 Glaserzeitung, Germany.
 Glückauf, Germany.
 Great Britain Geological Survey.

I

Idaho State Inspector of Mines.
 Ideal Power.
 Illinois Bureau of Labor Statistics.
 Illinois State Geological Survey.
 Illinois State Mining Board.
 Illinois Miners' Mechanics Institute.
 Illinois University.
 Imperial Institute.
 India Geological Survey.
 India Mining & Geological Institute.
 Indian & Eastern Engineer.
 Indiana Department of Geology & Natural
 Resources.
 Indust. Chimica, Minerar. e Metallurg.,
 Italy.
 Industrial Advocate, Nova Scotia.
 Industrial Engineering & Engineering Di-
 gest.
 Ingot.
 Ingeniería y Contratista.
 Ingeniería, Spain.
 Institute of Engineers & Ship Builders,
 Scotland.
 Institute of Marine Engineers, England.
 Institution of Mining Engineers, London.
 Institution of Mining & Metallurgy, Lon-
 don.
 International Congress for Radiology &
 Electrology.
 International Railway Fuel Association.
 International Institute of Technical Biblio-
 graphy.
 Internationalen Vereines der Bohringen-
 leure & Bohrtechniker, Austria.
 Iowa Engineer.
 Iowa Geological Survey.
 Iowa Mine Inspectors.
 Iowa State College Engineering Experiment
 Station.
 Iowa University.
 Iron Age.
 Iron Trade Review.

Iron & Coal Trades Review, London.
 Iron & Steel Institute, London.

J

Jern Kontorets Annaler, Sweden.
 Journal du Four Electrique et de l'Elec-
 trolyse, France.
 Journal du Pétrole, France.
 Journal of Electricity, Power & Gas.
 Journal of Geology.
 Journal of Industrial & Engineering Chem-
 istry.

K

Kali, Erz & Kohle, Germany.
 Kali, Halle, Germany.
 Kansas Mine Inspector.
 Kansas University Geological Survey.
 Kentucky Department of Mines.
 Kentucky Geological Survey.
 Kentucky Mining Institute.
 Kentucky University.
 Kohle & Erz, Germany.
 Kohleninteressent, Germany.
 Kunstdünger Industrie, Germany.

L

La Metallurgie du Nord, France.
 Lackawanna Chemical Society.
 Lake Superior Mining Institute.
 Le Pétrole, France.
 Le Phosphate, France.
 Levant Trade Review, Turkey.
 Liverpool Geological Association, England.
 L'Opinion Financiere, France.
 Los Angeles Chamber of Mines & Oil.
 Louisiana Geological Survey.

M

Madrid Científico, Spain.
 Malayan Tin & Rubber Journal, F. M. S.
 Manchester Association of Engineers, Eng-
 land.
 Manchester Mining & Geological Society,
 England.
 Marine Review.
 Maryland Geological Survey.
 Maryland Mine Inspector.
 Mechanical World, England.
 Mensuel de L'Association Amicale.
 Metal und Erz, Halle, Germany.
 Metaux et Alliages, France.
 Metallurgia Italiana, Italy.
 Metallurgical & Chemical Engineering.
 Metallurgie & Construction Mechanique,
 France.
 Metallurgie, Germany.
 Mexicana Sociedad Geologica.
 Mexican Institute of Mining & Metallurgy,
 Mexico.
 Mexican Mining Journal.
 Michigan Geological Survey.
 Midland Institute of Mining, Civil & Me-
 chanical Engineers, England.
 Mine Inspectors' Institute of U. S.
 Mine, Quarry & Derrick.
 Mining American.
 Mining Engineering, London.
 Mining Engineering & Electrical Record,
 B. C.
 Mining Institute of Scotland.
 Mining Journal, London.
 Mining Magazine, London.
 Mining, Oil & Engineering Review.
 Mining Society of Nova Scotia.
 Mining World & Engineering Record, Lon-
 don.
 Mining & Engineering Review, Australia.
 Mining & Engineering World.
 Mining & Geological Institute of India.
 Mining & Metallurgical Society of America.
 Mining & Oil Bulletin.

Mining & Scientific Press.
 Minnesota Geological & Natural History Survey.
 Minnesota School of Mines.
 Minnesota University.
 Mississippi Geological Survey.
 Missouri Bureau of Geology and Mines.
 Missouri Geological Survey.
 Missouri School of Mines.
 Mois Minier et Metallurgique, France.
 Montan-Zeitung für Oesterreich-Ungarn und die Balkanländer, Austria.
 Montana Bureau of Agriculture, Labor & Industry.
 Montana Inspector of Mines.
 Montanistische Rundschau, Germany.
 Municipal Engineer.

N

National Academy of Sciences.
 National Association of Chemical Industry.
 National Association of Colliery Managers, London.
 National Association of Stationary Engineers.
 National Geographic Magazine.
 National Lime Manufacturers' Association.
 Natural Gas Journal.
 Nevada Inspector of Mines.
 Nevada University.
 New Jersey Geological Survey.
 New South Wales Engineering Association.
 New York Geological Survey.
 New Zealand Geological Survey.
 New Zealand Institute.
 North Carolina Geological Survey.
 North of England Institute of Mining & Mechanical Engineers.
 North Staffordshire Institute of Mining & Mechanical Engineers.
 Nova Scotia Mining Society.

O

Oesterreichische Zeitschrift für Berg- und Huttenwesen, Vienna, Austria.
 Ohio Geological Survey.
 Oil Age.
 Oil & Gas Journal.
 Oil & Mining Bulletin.
 Oildom.
 Oklahoma Geological Survey.
 Ontario Bureau of Mines.
 Oregon Mineral Resources.
 Oregon University.

P

Pahasapa Quarterly.
 Pan American Union.
 Penn State Mining Quarterly.
 Pennsylvania Mines Department.
 Pennsylvania Topographic & Geologic Survey.
 Peru Engineer of Mines.
 Peru Today, Lima.
 Pétrole, France.
 Petroleum, Germany.
 Petroleum World, London.
 Pfalz-Saarbrücker Bezirksvereins Deutscher Ingenieure, Germany.
 Philadelphia Engineers' Club.
 Philippine Journal of Science, Manila.
 Pittsburgh University.
 Popular Mechanics.
 Popular Science Monthly.
 Power.
 Practical Electricity & Engineering.
 Practical Engineer.
 Praktische Geologie, Germany.

Q

Quebec Bureau of Mines.
 Quebec Department of Colonization, Mines & Fisheries.
 Queensland Geological Survey.
 Queensland Government Mining Journal.

R

Radium.
 Rassegna Mineraria Metallurgica e Chimica, Italy.
 Reclamation Record.
 Resoconti delle Riunioni Association, Italy.
 Retail Coalman.
 Revista Minera e Industria de Linares, Spain.
 Revista Minera. Metallurgica y de Ingenieria, Spain.
 Revista Petrolera, Mexico.
 Revue de Metallurgie, France.
 Revue des Matériaux de Construction, France.
 Revue d'Electrochimie et d'Electrometallurgie, France.
 Revue Industrielle du Centre, France.
 Revue Noire, France.
 Revue Pratique des Industries Metallurgiques, France.
 Rhodesia (Southern) Mines Department.
 Rhodesian Chamber of Mines, Bulawayo.
 Rigasche Industrie, Russia.
 Rock Products.
 Royal Geological Society of Cornwall, England.
 Royal Society of Arts Journal, London.
 Royal Society of Canada.

S

Salt Lake Mining Review.
 Schiess & Sprengstoffwesen, Germany.
 Science & Art of Mining, England.
 Science Conspectus.
 Sibley Journal of Engineering.
 Slate Trade Gazette, England.
 Smithsonian Institution.
 Société Amicale des Anciens Elèves de l'Ecole des Maîtres-Mineurs de Douai, France.
 Société Chimique de Belgique, Belgium.
 Société des Ingénieurs Civils de France.
 Society of Arts, London.
 Society of the Chemical Industry, London.
 South Africa Engineering, London.
 South Africa Geological Survey.
 South African Association of Engineers.
 South African Institute of Electrical Engineers.
 South African Mining Journal.
 South Australia Department of Mines.
 South Carolina Geological Survey.
 South Dakota Engineering Society.
 South Dakota Geological Survey.
 South Dakota Inspector of Mines.
 South Dakota School of Mines.
 South Staffordshire & Warwickshire Institute of Mining Engineers, England.
 South Wales Institute of Engineers, Wales.
 Staffordshire Iron & Steel Institute, England.
 Stahl und Eisen, Germany.
 Steam.
 Stone Trade Journal.
 Südwestdeutsche Industrie Zeitung, Prussia.
 Sydney University Engineering Society.

T

Technische Blätter, Essen-Ruhr, Germany.
 Technische Centralanzeiger, Germany.

Tech. du Nord de la France.
Tennessee Department of Mines.
Tennessee Resources.
Tennessee State Geological Survey.
Teniente Topica, Chile.
Texas University.
Texas University Mineral Survey.
Tonindustrie Zeitung, Berlin, Germany.
Transvaal Chamber of Mines, Johannesburg.

U

United States Bureau of Mines.
United States Bureau of Standards.
United States Consular Reports.
United States Department of Commerce and Labor.
United States Geological Survey.
United States National Museum.
Utah Bureau of Immigration, Labor & Statistics.

V

Vancouver, B. C., Chamber of Mines.
Vereines Deutscher Ingenieure, Germany.
Vermont Geological Survey.
Victoria Chamber of Mines, Australia.
Virginia Geological Survey.

W

Washington (D. C.) Academy of Sciences.
Washington Geological Survey.
West Australia Chamber of Mines.
West Australia Geological Survey.
West Australia Institution of Engineers.
West Australian Mining, Building & Engineering Journal, Kalgoorlie.
West of Scotland Iron & Steel Institute.
West Virginia Department of Mines.
West Virginia Geological Survey.
West Virginia Mining Association.
Western Chemist & Metallurgist.
Western Engineering.
Western Society of Engineers.
Wisconsin Engineer.
Wisconsin Geological & Natural History Survey.
Wisconsin University.
Wood Preserving.
Wyoming Geological Survey.

Y

Yale Scientific Monthly.

Z

Zentral Verbandes der Bergbau Betriebsleiter, Bohemia.

EXPLANATIONS AND ABBREVIATIONS

The entries show:

- (1) The author of the article.
- (2) A dash if the name is not apparent.
- (3) The title, in italics, of the article or book. Titles in foreign languages are ordinarily followed by a translation or explanation in English.
- (4) When the original title is insufficient a brief amplification is added. This addition is in brackets.
- (5) The journal in which the article appeared; also the date of issue, and the page on which the article begins.
- (6) Approximate number of words. Illus-

trated articles are indicated by an asterisk (*).

(7) The price. Articles mentioned will be supplied to subscribers of Mining and Engineering World and others at the prices quoted. Two-cent postage stamps will be accepted on orders less than \$1. Subscribers will be allowed a discount of 5 cts. if the price of the article exceeds 50 cts.

NOTE.—When there is more than one author to an article, only the first named appears in alphabetical arrangement, the others appearing, however, on the page or pages designated in author's index.

Subjoined is a list of the commoner abbreviations found in this work. They are used chiefly in the names of periodicals, and of associations. The abbreviations will be found easily intelligible at sight, and are what they purport to be—self-explanatory abbreviations, not symbols.

Abst.—Abstract.
Acad.—Academy; Académie; Accademia.
Adv.—Advance.
Afr.—Africa; African.
Akad.—Akademie.
Allgm.—Allgemeine.
Amer.—American.
A. I. M. E.—American Institute Mg. Eng.
Archts.—Architects.
Assn.—Association.
Ber.—Berichte.
Bol.—Boletín; Boletim; Bollettino.
Bull.—Bulletin.
Bur.—Bureau.
Centralbl.—Centralblatt.
C-R.—Compte-Rendu; Resoconti.
Chap.—Chapter.
Chem.—Chemical.
Chem.—Chemistry.
Coll.—College.
Colly.—Colliery.
Cong.—Congress.
Conv.—Convention.
d.—des (French and German).
Dept.—Department.
Deu.—Deutsche, etc.
Econ.—Economic.
Ed.—Editorial.
Elect.—Electrical.
Engg.—Engineering.
Engr.—Engineer.
Engrs.—Engineers.
Ext.—Extract.
f.—for; für.
Gaz.—Gazette.
Geol.—Geology.
Geolog.—Geological.
Ges.—Gesellschaft.
Govt.—Government.

Hüttenm.—Hüttenmännische.
Ind.—Industrial; Industriel; Industrielle.
Ingr.—Ingenieurs, Ingenieros.
Inst.—Institute; Institut; Instituto.
Instn.—Institution.
Intl.—International.
Jahresber.—Jahresbericht.
Jahrb.—Jahrbuch.
Jnl.—Journal.
Mag.—Magazine.
Mech.—Mechanical.
Met.—Metallurgy.
Metl.—Metallurgical.
Mex.—Mexican.
Mfrs.—Manufacturers.
Mg.—Mining.
Min.—Mineral.
Mittlgn.—Mittellungen.
Oestr.—Oesterreichische; Oesterreich.
Proc.—Proceedings.
Quart.—Quarterly.
Rec.—Record.
Rept.—Report.
Res.—Resources.
Rev.—Review; Revue; Revista.
Sci.—Science; Sciences.
Scient.—Scientific.
Soc.—Society; Société; Società.
Suppl.—Supplement; Supplementary.
Surv.—Survey.
Tech.—Technology.
Trans.—Transactions.
Ver.—Verein.
Verb.—Verband.
Verh.—Verhandlungen.
Univ.—University.
Zentralbl.—Zentralblatt.
Ztg.—Zeitung.
Zts.—Zeitschrift.

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PART I.

GEOLOGY AND MINERALOGY.

CHAPTER I.

MINING GEOLOGY, ORE GENESIS AND MINERALOGY.

GEOLOGY.

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Ball, Sydney H.—*The Lead Mines of Washington County, Missouri*. [A brief description of the geology of the deposits and operations and methods of working the deposits].—M. & S. P. Dec. 2 1916; p 807; pp 3¼*; 20c.

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Brooks, Alfred H.—*Antimony Deposits*

of Alaska. [A general review and classification is first made and each district is taken separately, giving a complete review later].—U. S. G. S. Bull. 649; pp 64*.

Brooks, Alfred H.—*Preliminary Report of the Tolovana District, Alaska*. [A description of the country, its geology and placer deposits].—U. S. G. S. Bull. 642-C; pp 9*.

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Burrows, A. G.; Hopkins, P. E.—*Boston Creek Gold Area and Goodfish Lake Gold Area*. [The geology, mines and prospects and economic minerals of each area ore considered separately].—Ont. Bur. of Mines Bull. No. 29; pp 24*.

Cady, Gilbert H.—*Coal Resources of District VI*. [Describes details of the formation of small areas separately].—Ills. Geol. Surv. Bull. 15; pp 94*.

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Chapin, Theodore; Canfield, George H.—*Mining Developments and Water-Power Investigation in Southeastern Alaska*. [The gold and copper mines are described by districts in which they are located and reviews are made of sources of water power].—U. S. G. S. Bull. 642-B; pp 56*.

Clapp, Charles H.—*Geology of the Nanaimo Map-Area*. [The area is on Vancouver island, British Columbia. Coal is the main product, though sand

and gravel, clay and stone are also produced].—Canada Geol. Surv. Memoir 51; pp 135*.

Cleland, H. F.—*Geology, Physical and Historical*. [A complete text which might be termed general geology].—American Book Co. N. Y.; book; pp 718*.

Crider, A. F.—*The Coals of Letcher County, Kentucky*. [Geology is taken up in detail and the different coal beds are described separately].—Kentucky Geol. Surv. Vol. VI, Ser. VI; pp 234.

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De Beque, G. R.—*The Bituminous-Shale Industry in Northwestern Colorado*. [Brief description of activities with respect to treating the shale for its oil and a more detailed description of the geology of the formation].—E. & M. J. Dec. 9 1916; p 1011; pp 1¼*; 25c.

De Kalb, Courtenay.—*Surficial Indications of Copper*. [Discussion on a paper of the same title by Frank H. Probert].—M. & S. P. July 22 1916; p 115; pp 1¼; 20c.

DeLury, J. S.—*The Manigotagan Gold District, Manitoba*. [The geology is reviewed and the Rice Lake, Gold Lake and Long Lake areas are included in the district].—Canadian Mg. Jnl. Aug. 1 1916; p 362; pp 3*; 35c.

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de Schmid, Hugh S.—*Investigation of a Reported Discovery of Phosphate in Alberta*. [The Commission of Conservation, Canada, found phosphate rock near Banff, Alberta. The nature and geology of the deposits are here described in detail].—Canada Mines Branch; pp 50*.

Dominian, Leon.—*Fuel in Turkey*. [Coal and petroleum are reviewed separately by the places in which they occur. The production, location and nature of the deposits are given].—Bull. A. I. M. E. June 1916; p 1011; pp 20*; 35c.

Draper, David.—*De Launay on Rand Gold*. [A discussion of De Launay's theory on the origin of gold in the conglomerates of the Rand district, South

Africal.—Mg. Mag. July 1916; p 26; pp 5; 50c.

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Dynan, John L.—*The White Caps Mine, Manhattan, Nevada*. [For the greater part the geology of the ore formation is described].—M. & S. P. Dec. 16 1916; p 884; pp 2*; 20c.

Eakin, H. M.; Mertie, J. B.; Harrington, G. L.—*The Cosna-Novitna and Ruby-Kuskokwim Regions, Alaska*. [The geology, geography and mineral resources of the country are first reviewed and followed by separate descriptions of the districts].—U. S. G. S. Bull. 642-H; pp 56*.

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English, Walter A.—*Geology and Oil Prospects of Cuyuna Valley, California*. [On the geological structure with respect to oil possibilities].—U. S. G. S. Bull. 621-M; pp 25*.

Fath, A. E.—*An Anticlinal Fold Near Billings, Noble County, Oklahoma*. [The geology and formation of the anticline is described relative to the possibilities of oil and gas which is found 20 miles from the anticline].—U. S. G. S. Bull. 641-E; pp 18*.

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nature of the deposits are described].—Coal Tr. Bull. Nov. 15 1916; p 47; pp 3¼; 25c.

Ferguson, Henry G.—*The Golden Arrow, Clifford and Ellendale Districts, Nye County, Nevada*. [Description of the geology and what little work has been done in the field].—U. S. G. S. Bull. 640-F; pp 11*.

Fleck, Herman.—*A Treatise on Molybdenum*. [An account of its mineralogy and places of occurrence is followed by a description of general methods of concentrating and smelting the ores. Uses of the metal are given].—Colo. School of Mines Q'tly July 1916; p 22; pp 11; 35c.

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Forbes-Leslie, William.—*The Norfolk Oil Shales*. [A paper read before the Inst. of Petroleum Technologists, England. In England and Scotland oil is found mostly in these shales and similar formation].—Petro. World Nov. 1916; p 525; pp 5; 35c.; Coll'y Guard. Nov. 3 1916; p 853; pp 1½; 35c.

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Glenn, L. C.—*The General Features of the Tennessee Coal Field North of the Tennessee Central Railroad*. [A review of the geology of the formation, coals and mining operations in the area].—Res. of Tenn. July 1916; p 127; pp 28*.

Hares, C. J.—*Anticlines in Central Wyoming*. [This area of 5000 square miles was investigated with regard to the possibilities of oil, but is located between Casper and Lander, contiguous to which city oil is now being produced].—U. S. G. S. Bull. 641-I; pp 47*.

Hewett, D. F.—*Some Manganese Mines in Virginia and Maryland*. [On the geology, mineralogy and occurrence of the ores and methods of milling and mining at several mines].—U. S. G. S. Bull. 640-C; pp 35*.

Hinds, Henry.—*The Coal Resources of the Clintwood and Bucu Quadrangles, Virginia*. [A complete description of each bed in the area is given, with a general geologic description of the area as a whole].—Va. Geol. Surv. Bull. XII; pp 206*.

Hopkins, Oliver B.—*Structure of the*

Vicksburg-Jackson Area, Mississippi. [The formation and its structure are discussed, with special reference to oil and gas deposits].—U. S. G. S. Bull. 641-D; pp 28.

Hopkins, P. E.—*Iron Pyrite Deposits in Southeastern Ontario, Canada.* [An economic geological treatise on the subject].—Bull. A. I. M. E. Aug. 1916; p 1361; pp 9*; 35c.

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Johnson, Bertrand L.—*Retreat of Barry Glacier, Port Wells, Prince William Sound, Alaska, Between 1910 and 1914.*—U. S. G. S. Prof. Paper 98-C; pp 5*.

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Junghann, Dr.—*Die Kupfergrube Chucamata in Chile.* [The copper deposits in Chile].—Zts. Beg. Hütten & Salinenw. Band 62, 1914; p 411; pp 5*; \$1.50.

Jones, Edward L., Jr.—*Reconnaissance of the Concully and Ruby Mining Districts, Washington.* [The first half is on the geological, geography and nature of the deposits. The last half is separate descriptions of mines and prospects].—U. S. G. S. Bull. 640-B; pp 26*.

Knopf, Adolph.—*Tin Ore in Northern Lander County, Nevada.* [The district is virgin and the mineralogy, geology and genesis of the ores are described].—U. S. G. S. Bull. 640-G; pp 14*.

Krebs, Charles E.; Teets, D. D., Jr.; White, I. C.—*County Reports of Raleigh and the Western Portions of Mercer and Summers Counties, West Virginia.* [An account of the geology, mineral deposits

and operations].—W. Va. Geol. Surv. Report; pp 778*.

Lahee, Frederic H.—*Field Geology.* [On the recognition of structures from geologic phenomenon in the field with some general geology of use in this connection].—McGraw-Hill Book Co.; book; pp 508*; \$3.

Lakes, Arthur.—*The Electric-Point Mine in Washington.* [A vivid description of the mine workings and geology of the ore and allied formation with some notes as to the genesis of the ores].—Mg. World Dec. 9 1916; p 991; pp 1½*; 10c.

Lang, Herbert.—*Black Sand of the Pacific Coast.* [Tells of the mode of occurrence of these deposits which are not of large tonnages, and discusses the possibilities of more extensively working them].—M. & S. P. Dec. 2 1916; p 811; pp 234; 20c.

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Lee, Wallace.—*Geology of the Kentucky Part of the Shawneetown Quadrangle.* [The economic deposits are composed of coal, oil, lead, zinc and clay].—Kentucky Geol. Surv.; pp 73.

Loveman, M. H.—*The Geology of the Bawdwin Mines, Burma, Asia.* [Complete, detailed description of these lead-zinc sulphide deposits which have been worked since ancient times is given].—A. I. M. E. Bull. Dec. 1916; p 2119; pp 25*; 35c.

Lupton, Charles T.—*Geology and Coal Resources of Castle Valley in Carbon, Emery and Sevier Counties, Utah.*—U. S. G. S. Bull. 628; pp 88*; 30c.

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Mansfield, G. R.—*A Reconnaissance for Phosphate in the Salt River Range, Wyoming.*—U. S. G. S. Bull. 620-O; pp 19*.

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Merrill, Frederick J. H.—*Geology and Mineral Resources of San Diego and Imperial Counties*. [Though gold is the principal metal mined considerable is done in the non-metallic industry].—Calif. Mg. Bur.; pp 113*.

Miller, Benjamin L.; Singewald, Joseph T., Jr.—*The Patino Tin Mines, Bolivia*. [A description of the properties owned by Patino in Bolivia, including the mode of occurrence, methods of operation and geology of the formation].—E. & M. J. Sept. 9 1916; p 451; pp 4¼*; 25c.

Moffit, Fred H.—*Mineral Resources of the Upper Chitina Valley, Alaska*. [A district in which copper and gold have been found, but which has been prospected but little].—U. S. G. S. Bull. 642-C; pp 8*.

Moore, E. S.—*Observations on the Geology of the Broken Hill Lode, New South Wales*. [A complete geologic description of the formation, ore deposits and nature of the ore, citing instances at particular mines].—Eco. Geol. June 1916; p 327; pp 22*; 60c.

Nelson, W. A.—*The Tennessee Coal Field South of the Tennessee Central Railroad*. [Describes the geology, mining and nature of the coals in general for the entire area and separately for the different districts].—Res. of Tenn. July 1916; p 155; pp 29*.

Nevius, N. J.—*Notes on the Randsburg Tungsten District, California*. [The geology of the placer deposits and general conditions in operating in the district are reviewed].—Mg. World July 1 1916; p 7; pp 1¼; 10c.

Newland, David H.—*The New Zinc Mining District Near Edwards, N. Y.* [General remarks on zinc in Precambrian rocks].—Eco. Geol. Nov. 1916; p 623; pp 22*; 60c.

Ohren, D. W.; Garrett, R. E.—*Ponca City Oil and Gas Field, Oklahoma*. [The geology, production and other items related to the field are spoken of and it is contended that many of the wells thought dry are not].—Okla. Geol. Surv. Bull. 16; pp 30*.

Paige, Sidney.—*Silver City, New Mexico, Folio*. [Large separate maps of the quadrangle, with a geologic description of the formation and ore deposits].—U. S. G. S. Folio No. 199; pp 19*.

Palmer, Leroy A.—*A Sedimentary Magnesite Deposit*. [The deposit is operated by the Rex Plaster Co., Bissell, Cal. About 45 tons are produced per day and shipped to Los Angeles. Method of mining is briefly described].—E. & M. J. Dec. 2 1916; p 965; pp 2¼*; 25c.

Palmer, Leroy A.—*The Oatman District, Arizona*. [On the geology and nature of the deposits and genesis of the ores].—M. & S. P. Aug. 5 1916; p 193; pp 3½*; 20c.

Palmer, L. A.—*The Yellow Pine District, Nev.* [Describes the district, its geology and nature of the ore deposits found there. The systems of mining and milling are then reviewed and some details given].—E. & M. J. July 15 1916; p 123; pp 3*; 25c.

Parodi, Lorenzo.—*Notizie Sulla Metallurgia del Nickel Importanza del Nickel nell'odierna Metallurgia*. [Notes on the metallurgy of nickel today. Deals with the situation and methods employed in the principal producing countries].—Metallurgia Ital. May 31 1916; p 365; pp 14; No. 1.

Phalen, W. C.—*The Conservation of Phosphate Rock in Tennessee*. [On the geology, nature and genesis of the deposits and methods of stripping and mining the deposits, with notes on production].—Res. of Tenn. Oct. 1916; p 193; pp 24*.

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Provot, F. A.—*Geology of the Jerome Mining District, Arizona*. [Abstract of "Geological Reconnaissance of Jerome District"].—E. & M. J. Dec. 9 1916; p 1028; pp 3¼*; 25c.

Purington, C. W.—*Precious Stones in the Urals, Russia*. [A description of the deposits and their location].—Mg. Mag. July 1916; p 24; pp 2*; 50c.

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tion at Clifton-Morenci District, Arizona. [Details on the geology of the formation, genesis and mineralogy of the deposits].—Eco. Geol. Sept. 1916; p 528; pp 36*; 60c.

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Taber, Stephen.—*The Genesis of Asbestos and Asbestiform Minerals*. [Includes an account of asbestos and minerals related to it].—Bull. A. I. M. E. Nov. 1916; p 1973; pp 26*; 35c.

Van Tuyl, Francis M.—*New Points on the Origin of Dolomite*. [A historic review and field and experimental evidence on the new theory].—American Jnl. of Sci. Sept. 1916; p 249; pp 12; 60c.

Watson, T. L.—*Zircon-Bearing Pegmatites in Virginia*. [The rock occurs in North Carolina and the chemical analysis of the rock is taken up in detail].—Bull. A. I. M. E. July 1916; p 1237; pp 7*; 35c.

Watts, A. S.—*The Feldspars of New England and North Appalachian States*. [Goes into the lithology of feldspar rocks in general and gives nature of deposits by states. Methods of testing for quality and concentration of rocks are given]. U. S. Bur. of Mines Bull. 92; pp 181*; 35c.

Weinshenk, Ernst; Johannsen, Albert.—*The Fundamental Principles of Petrology*. [A translation of Weinshenk's book in

German. But little is said with regard to the classification of rocks, but is more confined to the origin, present condition and decay of both igneous and sedimentary rocks].—McGraw-Hill Co.; book; pp 214*; \$2.50.

Wells, Roger C.—*Experiments on the Extraction of Potash from Wyomingite*. [The mineral contains principally potash and alumina as a silicate].—U. S. G. S. Prof. Paper 98-D; pp 4.

Wherry, Edgar T.—*Notes on Alunite, Psilomelanite and Titanite*. [A description of the minerals, their chemical and physical properties, etc.].—Report No. 2145, U. S. National Museum; pp 8.

Young, George J.—*The Selection of a Method for Ore Treatment*. [On methods of testing and investigating new ores for refining treatment].—Met. & Chem. Engg. Sept. 15 1916; p 297; pp 2¾; 35c.

Young, S. W.; More, N. P.—*Laboratory Studies in Sulphide Ore Enrichment*. [The formation of chalcoppyrite by artificial replacement].—Eco. Geol. Sept. 1916; p 574; pp 8*; 60c.

PART II.

ORES AND MINERAL PRODUCTS.

METALS AND METAL ORES.

CHAPTER II.

GOLD, SILVER AND PLATINUM.

GOLD

Gold Fields and Mining

Alderson, M. W.—*Mining Possibilities in Colombia, South America*. [The general conditions to be found in the country and ways of the people are dealt with].—Mg. World July 8 1916; p 51; pp 4*; 10c. in Colombia].—Mg. World Aug. 12 1916; Mg. World July 8 1916; p 51; pp 4*; Aug. 12 1916; p 281; pp 2¼*; Aug. 26 1916; p 367; pp 2¼*; 30c.

Austin, W. R.—*Boulder Breaking at a Placer Mine, British Columbia*. [Hand feed hammer drills are used for this work].—Mine & Quarry; Oct. 1916; p 922; pp 2*; 20c.

Ball, L. C.—*Maxwelton Goldfield*. [Reviews mining operations and production in the district].—Queen. Govt. Mg. Jnl. June 15 1916; p 261; pp 1¾*; 35c.

Ball, Lionel C.—*The Black Ridge, Clermont, Australia*. [Gives brief separate descriptions of the prospects of the Deep Ground].—Queen. Govt. Mg. Jnl. Sept. 15 1916; p 426; pp 8½*; 35c.

Bartels, Bergassessor.—*Russlands Gold, Platin, Blei, Silber und Zink Industrie im Jahre 1912*. [Russia's gold, platinum, lead, silver and zinc industry in 1912. The review includes the production of the metals in Russia, Greater Russia and Siberia].—Zts. Berg., Hütten & Salinenw. Vol. 62 Ser. 3; p 217; pp 5; \$1.50.

Bastin, Edson S.—*The Gold Log Mine, Talladega County, Alabama*.—U. S. G. S. Bull. 640-I; pp 3.

Bell, Robert N.—*Rich Gold Ore Found in Idaho*. [Reviews the deposits and recent findings in the Atlanta district].—E. & M. J. Oct. 28 1916; p 783; pp 2¾; 25c.

Blackstone, Richard.—*A History of the Homestake Mine, S. D.* [Abst. from Pa-

hasapa Quarterly. Reviews the progress of the company, mill and mines].—Mg. World July 15 1916; p 99; pp 3¼*; 10c.

Bradley, Walter W.—*Mines and Mineral Resources of Colusa, Glenn, Lake, Marin, Napa, Solano, Sonoma, and Yolo Counties, California*. [Separate descriptions of mines, deposits and operations of mines and plants].—Calif. Mg. Bur.; pp 208*.

Brinsmade, Robert B.—*Two Washington Mining Districts*. [The districts are known as Metaline Falls and Bald Mountain. Zinc, lead, copper and gold are found with some silver. The various properties and their activities are spoken of briefly].—M. & S. P. Nov. 18 1916; p 743; pp 2½*; 20c.

Bristol, J. J.—*Reduction of Stope Con-tours*. [The apparatus described accomplishes the result in one operation and is a plain pantograph for reduction with a cosine pantograph attached thereto].—E. & M. J. Dec. 16 1916; p 1053; pp 4*; 25c.

Brooks, Alfred H.—*Gold, Silver and Copper in Alaska in 1915*. [Discusses production and conditions in general and in detail by districts].—Min. Res. U. S. I: 8; pp 12.

Brooks, Alfred H.—*Mineral Resources of Alaska*. [Descriptions of mines and deposits, reviewing their production, geology and geography. The coal mining lease laws are also spoken of].—U. S. G. S. Bull. 642; pp 279*.

Brooks, Alfred H.—*Preliminary Report of the Tolovana District, Alaska*. [A description of the country, its geology and placer deposits].—U. S. G. S. Bull. 642-G; pp 9*.

Brooks, Alfred H.—*The Alaskan Mining Industry in 1915*. [Reviews the production and conditions in different districts, with information on coal and metal

mining law].—U. S. G. S. Bull. 642-A; pp 71*.

Brown, G. Chester.—*Mines and Mineral Resources of Shasta, Siskiyou and Trinity Counties, California*. [Copper and gold are the principal minerals, though many others occur in the district].—Calif. Mg. Bur.; pp 192*.

Burrows, A. G.; Hopkins, P. E.—*Boston Creek Gold Area and Goodfish Lake Gold Area*. [The geology, mines and prospects and economic minerals of each area are considered separately].—Ont. Bur. of Mines Bull. No. 29; pp 24*.

Butler, B. S.—*Copper in 1915*. [A prefatory note is given on gold, silver, copper, lead and zinc. This is followed by a detailed general report on copper production by states, by grades and from the mines and smelters of the country].—Min. Res. U. S. I:21; pp 68.

Butler, B. S.; Loughlin, G. F.—*A Reconnaissance of the Cottonwood-American Fork Mining Region, Utah*. [Notes on the history and production are given, with a detailed description of the formation and operations].—U. S. G. S. Bull. 620-I; pp 62*.

Capps, Stephen R.—*Gold Mining in the Willow Creek District, Alaska*. [Separate briefs on the prospects, claims, mines and companies in the district].—U. S. G. S. Bull. 642-F; pp 6; Mg. World Sept. 16 1916; p 499; pp 2; 10c.

Capps, Stephen R.—*The Turnagain-Kikik Region, Alaska*. [On the geography, geology and mineral resources. Gold placers and gold-silver lodes are found in the district].—U. S. G. S. Bull. 642-E; pp 48*.

Chapin, Theodore; Canfield, George H.—*Mining Developments and Water-Power Investigation in Southeastern Alaska*. [The gold and copper mines are described by districts in which they are located and reviews are made of sources of water power].—U. S. G. S. Bull. 642-B; pp 55*.

Cole, Arthur A.—*The Mining Industry in that Part of Northern Ontario Served by the T. & N. O. Railway*. [Covers the camps of Cobalt and Porcupine with respect to their production, activities, profits and costs].—T. & N. O. Commission, Toronto; Report; pp 71*.

Cook, Paul R.—*Cyaniding Clayey Ore at the Buckhorn Gold Mine, Nevada*. [Crushing, cyaniding and details of mining and milling costs per ton are considered].—Bull. A. I. M. E. Sept. 1916; p 1555; pp 9*; 35c.

Davis, H. E.—*Situation in the Oatman District, Arizona*.—Mg. & Oil Bull. July 1916; p 175; pp 6*; 25c.

De Wolf, William P.—*Reopening Old Mines in Arizona*.—Mg. World Aug. 19 1916; p 329; pp 2¼*; 10c.

De Wolf, William P.—*Yavapai County, Arizona, Mines and Mills*. [A general review of current conditions, with some detailed information].—Mg. World Sept. 16 1916; p 503; pp 1¼; 10c.

Duff, J. E.—*Northwestern Country Tributary to Spokane Is a Great Mineral Producer*. [Deals with the activities and results obtained at the various mines and plants in the area which includes British Columbia and United States].—Mg. World Nov. 18 1916; p 871; pp 3¼*; 10c.

Dynan, John L.—*The White Caps Mine, Manhattan, Nevada*. [For the greater part the geology of the ore formation is described].—M. & S. P. Dec. 16 1916; p 884; pp 2*; 20c.

Eakin, H. M.; Mertie, J. B.; Harrington, G. L.—*The Cosna-Nounina and Ruby-Kuskowin Regions, Alaska*. [The geology, geography and mineral resources of the country are first reviewed and followed by separate descriptions of the districts].—U. S. G. S. Bull. 642-H; pp 56*.

Eddy, Lewis H.—*The Argonaut Mine, California*. [On the installation of a dam for storing tailings, power pumps and experimental work with flotation].—E. & M. J. Aug. 5 1916; p 265; pp 2¾*; 25c.

Eddy, Lewis H.—*Yuba No. 15 All-Steel Gold Dredge*. [A general detailed description of the dredge and its operation].—E. & M. J. Aug. 19 1916; p 329; pp 2*; 25c.

Ferguson, Henry G.—*The Golden Arrow, Clifford and Ellendale Districts, Nye County, Nevada*. [Description of the geology and what little work has been done in the field].—U. S. G. S. Bull. 640-F; pp 11*.

Fulton, Charles H.—*The Buying and Selling of Ores and Metallurgical Products*. [Methods of sampling and the different ways in which ores are settled for and penalized are explained].—U. S. Bur. of Mines Tech. Paper 83; pp 42; 15c.

Gudgeon, C. W.—*The Scheelite Gold Mines of Otago, New Zealand*. [Several properties are described. In each the ore body, milling process and milling and mining costs are dealt with].—Proc. Aus. Inst. M. E. Nov. 21 1916; p 37; pp 14*; 65c.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Utah in 1915*. [Separate reviews of operations and production of the different counties. Conditions of the industry in the state as a whole are given and each of the metals is reviewed separately].—Min. Res. of U. S. I:15; pp 35.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Arizona in 1915*. [Separate reviews of the metals and activities in each of the counties in the state].—Min. Res. of U. S. I:17; pp 37.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Montana in 1915*. [Separate reports of each metal and briefs on the metals collectively for each county].—Min. Res. of U. S. I:19; pp 36.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Utah in 1915*. [The production of each mineral is reviewed separately, as are the activities in each county of the state].—Min. Res. of U. S. I:15; pp 25.

Heikes, C. V.—*Gold, Silver, Copper, Lead and Zinc in Arizona in 1915*. [Separate reports of the metals and counties' activities and productions].—Min. Res. of U. S. I:17; pp 37.

Henderson, Charles W.—*Gold, Silver, Copper and Lead in South Dakota and Wyoming in 1915*. [The report is made by counties, each state being considered separately].—Min. Res. of U. S. I:13; pp 13.

Henderson, Charles W.—*Gold, Silver, Copper, Lead and Zinc in New Mexico and Texas in 1915*. [Each state is reviewed separately by counties and by separate metals for the state as a whole].—Min. Res. U. S. I:14; pp 27.

Henderson, Charles W.—*Gold, Silver, Copper and Lead in Wyoming and South Dakota*. [Separate reviews of operations and production of the states are given with briefs on each county].—Min. Res. of U. S. I:13; pp 14.

Henderson, Charles W.—*Gold, Silver, Copper, Lead and Zinc in New Mexico and Texas in 1915*. [Both states are reviewed separately and separate reviews of the metals produced and operations by counties are included].—Min. Res. of U. S. I:14; pp 27.

Henderson, Charles W.—*Gold, Silver, Copper, Lead and Zinc in Colorado in 1915*. [Each metal is reviewed separately for the whole state and followed by reviews of the separate mines and mills by counties as regards their operation and production].—Min. Res. of U. S. I:16; pp 64.

Herr, Irving.—*Sampling Placer-Gravel Deposits*. [Describes the system by which the holes were placed and method of plotting the same].—E. & M. J. Aug. 5 1916; p 261; pp ¾*; 25c.

Hillen, A. G.—*Review of Conditions in the Eureka Mining District, Nevada*. [A general review of operations and condi-

tions, both past and present].—Mg. World Sept. 30 1916; p 571; pp 4*; 10c.

Hurja, E. E.—*The Ketchikan District, Alaska*. [Reviews the progress and operations of the principal mines].—M. & S. P. July 29 1916; p. 163; pp 3*; 20c.

Jennings, Hennen; Janin, Charles.—*The History and Development of Gold Dredging in Montana*. [Mostly on the Ruby district. One chapter is confined to placer mining methods and operating costs].—U. S. Bur. of Mines Bull. 121; pp 63*; 40c.

Johnson, Bertrand L.—*Mining on Prince William Sound, Alaska*. [Gold, silver and copper mines and plants are reviewed separately by districts. Geology and mineralogy are reviewed in a general way].—U. S. G. S. Bull. 642-D; pp 9.

Lowell, F. L.—*Mines and Mineral Resources of Del Norte, Humboldt and Mendocino Counties, California*. [Reviews operations in detail, locates separate deposits and describes them].—Calif. Mg. Bur.; pp 59*.

McCarty, Morris.—*Mount Baker Mining District, Washington*.—Mg. World Oct. 28 1916; p 745; pp 1; 10c.

McLaughlin, R. P.; Bradley, Walter C.; Brown, G. Chester; Lowell, F. L.—*Mines and Mineral Resources of Fresno, Kern, Kings, Madera, Mariposa, Merced, San Joaquin and Stanislaus Counties, California*. [Operations are included in separately describing mines, plants and unworked deposits].—Calif. Mg. Bur.; pp 220*.

Miller, Benjamin Leroy; Singewald, J. T.—*The Gold Mines of Brazil*. [The two most noted mines are described. The power question, mining and refining of the ore are dealt with].—E. & M. J. July 29 1916; p 207; pp 5*; 25c.

Mills, E. W.—*Leading Gold Mining Operations in Korea*. [Abstract of a paper read before the Korean branch of the Royal Asiatic Soc. Deals with the production, operation and history of several concessions in the country].—Mg. World Dec. 9 1916; p 989; pp 1½; 10c.; M. & S. P. Dec. 23 1916; p 915; pp 1¾*; 20c.

Moffit, Fred H.—*Mineral Resources of the Upper Chitina Valley, Alaska*. [A district in which copper and gold have been found, but which has been prospected but little].—U. S. G. S. Bull. 642-C; pp 8*.

Payne, Henry M.—*Mining the Frozen Gravels of the Arctic*. [A general account of operations, production, etc., in Siberia].—Sibley Jnl. Oct. 1916; p 2; pp 4½*; 30c.

Payne, H. M.—*Mining the Frozen Gravels of Siberia and the Yukon*. [Details of methods used, results obtained and costs of carrying on operations].—Bull. Mg. & Met. Soc. of Amer. Sept. 30 1916; p 204; pp 1½*; 35c.

Payne, F. W.—*Dredging for Minerals*. [Deals with the past and present operation of dredges by different companies pointing out causes for their failure and success].—Mg. & Engg. Rev. Oct. 5 1916; p 17; pp 1¾; 35c.; Mg. World Dec. 16 1916; p 1029; pp 1½; 10c.

Platts, John B.—*Pocket-Hunting Applied to Prospecting*. [Refers to the locating of rich gold pockets].—M. & S. P. Aug. 26 1916; p 306; pp 1; 20c.

Plummer, W. L.—*Successful Dry Placer Operations at Plomosa, Arizona*. [Speaks of early operations and the present methods of dry crushing and concentrating. Tables using air instead of water are used].—Mg. World July 1 1916; p 1; pp 3*; 10c.

Purington, C. W.; Smith, R. E.—*Winter Sluicing at the Lenskoi Gold Mines, Siberia*. [Describes the methods and plant used for handling the frozen gravel by thawing and treating at once. Mining, construction and other operating costs are given].—Mg. Mag. Sept. 1916; p 143; pp 9*; 50c.

Rickard, T. A.—*Electrolytic Refining at Trail, British Columbia*. [The five more common metals are produced here and the nuisance of sulphur fumes is entirely absent].—M. & S. P. Dec. 23 1916; p 903; pp 5*; 20c.

Rose, Hugh.—*Mining Practice at Santa Gertrudis, Mexico*. [Abst. from the A. I. M. E. Bulletin. Contains drawings, details and general description].—E. & M. J. Aug. 26 1916; p 371; pp 6*; 25c.

Scott, W. A.—*Activity in the Goodsprings District, Nevada*. [Speaks briefly of the different mines in the district as regards their operations and production].—Mg. World Dec. 23 1916; p 1069; pp 3*; 10c.

Scott, W. A.—*El Dorado Canyon—Mining, Milling and Development*. [The geology and operations of the mines and mills of several of the companies in the district are given].—Mg. World Dec. 16 1916; p 1023; pp 3¾*; 10c.

Scott, W. A.—*Commonwealth Mine and Mill, Pearce, Arizona*. [Gives details on operations and description of methods used].—Mg. World July 29 1916; p 187; pp 1½*; 10c.

Sibley, Robert.—*The Most Powerful Dredge Afloat*. [The dredge is in Cali-

fornia and is electrically operated].—Jnl. of Elect. Power & Gas Nov. 11 1916; p 371; pp 3¾*; 35c.

Smeeth, W. F.—*Annual Report for the Year 1914*. [Part I takes up production and general conditions of the industry, while Part II is more of a geological nature on several of the districts in the state].—Mysore Dept. of Mines and Geol.; pp 188*; \$1.75.

Smith, Sumner S.—*The Cache Creek Dredge, Alaska*. [Describes the dredge, its fuel question and the handling of the gravel from the dredge in recovering the gold].—M. & S. P. Dec. 23 1916; p 908; pp 2*; 20c.

Spilman, C. F.—*Tom Reed Gold Mines Property, Arizona*. [A general description of the mine workings and formation with details is given].—Mg. World Dec. 23 1916; p 1073; pp 1½*; 10c.

Taylor, M. T.—*Deep-Lead and Drift Mining in Victoria, Australia*. [Describes methods and details of methods used in going underground for gravel].—Mg. Mag. Oct. 1916; p 207; pp 12*; 50c.

Weeks, Walter S.—*The Launching of the Yuba No. 16 Dredge, California*.—M. & S. P. Dec. 16 1916; p 872; pp 2*; 20c.

Weston, E. M.—*The Far East Rand Mines*. [A general review of the district and current operations in it].—Mg. & Engg. Rev. Oct. 5 1916; p 6; pp 2; 35c.

Yale, Charles G.—*Gold, Silver, Copper, Lead and Zinc in California in 1915*.—Min. Res. of U. S. I:10; pp 51.

Yale, Charles G.—*Gold, Silver, Copper, Lead and Zinc in California and Oregon in 1915*. [Reviews the production by counties and in general].—Min. Res. of U. S. I:10; pp 51.

——— *British Columbia Report of the Minister of Mines*. [On the production and mineral industry of the province].—Mg. & Engg. Rec. Oct. 1916; p 92; pp 1½; 35c.

——— *Consolidation of the Treadwell Mines, Alaska*. [Operating costs, production, description of the companies' holdings, etc., and items of financial interest are given].—M. & S. P. Aug. 26 1916; p 307; pp 7*; 20c.

——— *Gold Dredge at Hammonton, California*. [Reported as the largest ladder dredging bucket constructed].—Engg. Rec. June 24 1916; 20c.

——— *Gold Dredging in Yukon*. [Abstract of a paper published by the Minister of Interior Canada. The doings and equipment of operating companies in the district are reviewed].—Canadian Mg. Jnl. Nov. 15 1916; p 535; pp 10¾*; 35c.

— *Gold Mining in War Time*. [A review of the conditions, prices and taxes in West Australia].—Monthly Jnl. Chamber of Mines West Aust. June 30 1916; p 108; pp 4½; 35c.

— *Kleinfontein, South Africa*. [Deals with the future of the district and reviews the production, financial information and general mine operations in the district].—S. Afr. Mg. Jnl. Aug. 12 1916; p 440; pp 1¼*; 35c.

— *Mining and Milling at the Santa Gertrudis, Mexico*. [The cyanide process is used here and the text is a discussion of a previous paper].—A. I. M. E. Bull. Dec. 1916; p 2197; pp 3; 35c.

— *Placer Mining in Yukon, Methods and Costs of*. [Extract of a report published by the Minister of Interior, Ottawa, Ont.].—Canadian Mg. Jnl. Nov. 1 1916; p 506; pp 3¼; 35c.

— *The Mount Morgan Mine and Works, Australia*. [Complete description of the geology, mining and concentrating plant of this mine once a gold mine but now copper].—Mg. & Engg. Rev. July 5 1916; p 244; pp 9*; 35c.

Milling, Metallurgy, Assaying, Etc.

Blackstone, Richard.—*A History of the Homestake Mine, S. D.* [Abst. from *Pahasapa Quarterly*. Reviews the progress of the company, mill and mines].—Mg. World July 15 1916; p 99; pp 3¼*; 10c.

Bradley, Walter W.—*Mines and Mineral Resources of Colusa, Glenn, Lake, Marin, Napa, Solano, Sonoma, and Yolo Counties, California*. [Separate descriptions of mines, deposits and operations of mines and plants].—Calif. Mg. Bur.; pp 208*.

Bryan, R. R.—*From Precipitate to Bullion*. [A description of the handling of gold from the time it is taken from the zinc-boxes till it is refined gold, which has passed through the furnace].—M. & S. P. Dec. 9 1916; p 834; pp 2½*; 20c.

Burrows, A. G.; Hopkins, P. E.—*Boston Creek Gold Area and Goodfish Lake Gold Area*. [The geology, mines and prospects and economic minerals of each area are considered separately].—Ont. Bur. of Mines Bull. No. 29; pp 24*.

Carpenter, Jay A.—*Ore Treatment at the West End, Tonopah, Nevada*. [Gives some costs and discusses in detail the results of operations rather than the methods].—M. & S. P. Aug. 5 1916; p 197; pp 1½; 20c.

Clevenger, G. H.—*Electrolytic Precipitation from Cyanide Solutions*. [A paper read before the American Electrochemical

Soc.].—E. & M. J. Sept. 30 1916; p 579; pp 3½*; 25c.

Cook, Paul R.—*Cyaniding Clayey Ore at the Buckhorn Gold Mine, Nevada*. [Crushing, cyaniding and details of mining and milling costs per ton are considered].—Bull. A. I. M. E. Sept. 1916; p 1555; pp 9*; 35c.

De Wolf, William P.—*Yavapai County, Arizona, Mines and Mills*. [A general review of current conditions, with some detailed information].—Mg. World Sept. 16 1916; p 503; pp 1¼; 10c.

Duff, J. E.—*Northwestern Country Tributary to Spokane Is a Great Mineral Producer*. [Deals with the activities and results obtained at the various mines and plants in the area which includes British Columbia and United States].—Mg. World Nov. 18 1916; p 871; pp 3¼*; 10c.

Dunning, C. H.—*The Big Pine Cyanide Mill, Arizona*. [An 80-ton mill, making 50% extraction at \$1.37 per ton. Lead, silver and gold, with no copper or zinc, makes up the ore].—E. & M. J. Dec. 16 1916; p 1043; pp 1¼*; 25c.

Eames, Luther B.—*Countercurrent Decantation*. [This article is also in the Bulletin of the Canadian Mg. Inst. The results of many tests are plotted into curves, showing the effect of many of the variables in the process of its efficiency].—A. I. M. E. Bull. Dec. 1916; p 2087; pp 15*; 35c.

Eddy, Lewis H.—*The Argonaut Mine, California*. [On the installation of a dam for storing tailings, power pumps and experimental work with flotation].—E. & M. J. Aug. 5 1916; p 265; pp 2¼*; 25c.

Edmands, H. R.—*Some Notes on the Effect of Lead Salts and of Varying Degree of Alkalinity on the Solvent Power of Cyanide Solution for Gold*. [The results of tests are tabulated and described].—Jnl. Chamber of Mines West Aust. April 29 1916; p 63; pp 8; 75c.

Gaebelein, P. W.—*Cyaniding Copper-Bearing Ores*. [On operations at the Baker Mines Co., Cornucopia, Ore.].—E. & M. J. July 25 1916; p 22; pp 1¼*; 25c.

Gudgeon, C. W.—*Gold Scheelite Ore in New Zealand*. [Abst. from the bulletin of the Aust. I. M. E. The deposits and methods of concentration are described].—M. & S. P. July 22 1916; p 136; pp 1*; 20c.

Gudgeon, C. W.—*Milling Scheelite-Gold Ores*. [Abst. from a paper read before the Aust. Inst. of M. E. Flow sheets and costs are given, with description].—E. & M. J. Aug. 19 1916; p 346; pp 2*; 25c.

Gudgeon, C. W.—*The Scheelite Gold Mines of Otago, New Zealand*. [Sev-

eral properties are described. In each the ore body, milling process and milling and mining costs are dealt with].—Proc. Aus. Inst. M. E. No. 21 1916; p 37; pp 14*; 65c.

Hill, James M.—*Platinum and Allied Metals in 1915*. [Reviews production in general, by states and foreign countries. Methods of refining and extracting from other metals is spoken of briefly].—Min. Res. of U. S. I:6; pp 19.

Johnson, Bertrand L. — *Mining on Prince William Sound, Alaska*. [Gold, silver and copper mines and plants are reviewed separately by districts. Geology and mineralogy are reviewed in a general way].—U. S. G. S. Bull. 642-D; pp 9.

Lilburne, A. S.—*The Milling of Gold Ores*. [A general discussion regarding the general practices followed in Australia in the milling of gold ores].—Mg. & Engg. Rev. Nov. 6. 1916; p 33; pp 1*; 35c.

Macdonald, William. — *Absorption of Gold by Plates*. [Speaks of the absorption of gold by copper amalgamating plates].—M. & S. P. Dec. 16 1916; p 689; pp 1*; 20c.

Magnus, B.—*Blast vs. Reverberatory Furnace*. [The advantages of the blast over the reverberatory furnace, as noted at Mount Morgan, Australia].—E. & M. J. Oct. 7 1916; p 668; pp 1*; 25c.

Mann, Horace T.; Clayton, C. Y.—*Cupellation Losses in Assaying*. [Contains considerable tabulated data and curves].—Mo. School of Mines Bull. II:3; pp 60*.

McCombie, J.—*The Milling of Gold Ores*. [Practical hints on various phases of the process].—Mg. & Engg. Rev. Oct. 5 1916; p 8; pp 1*; 35c.

Miller, Benjamin Leroy; Singewald, J. T.—*The Gold Mines of Brazil*. [The two most noted mines are described. The power question, mining and refining of the ore are dealt with].—E. & M. J. July 29 1916; p 207; pp 5*; 25c.

Parker, S. M.—*Plant of the Babylonian Gold Mines, Nicaragua*. [Detailed description of the cyanide plant which uses pneumatic stamps and the results obtained at the plant in the various steps of the process].—M. & S. P. Dec. 23 1916; p 911; pp 4*; 20c.

Pilgrim, Earl R.—*Flotation Tests on an Antimony Gold Ore*. [Tests conducted at the Washington College of Mines].—E. & M. J. Nov. 4 1916; p 820; pp 4*; 25c.

Plummer, W. L. — *Successful Dry Placer Operations at Plomosa, Arizona*. [Speaks of early operations and the pres-

ent methods of dry crushing and concentrating. Tables using air instead of water are used].—Mg. World July 1 1916; p 1; pp 3*; 10c.

Power, Danvers F.—*Precipitation of Gold and Silver on Zinc Dust*. [A talk on the use of different forms of zinc for precipitation].—Mg. & Engg. Rev. Oct. 5 1916; p 10; pp 1*; 35c.

Rickard, T. A.—*Reopening of Old Mines Along the Mother Lode, California*. [A review of conditions past and present with cost and production figures given].—M. & S. P. Aug. 12 1916; p 236; pp 5*; 20c.

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Singewald, Joseph T., Jr.; Miller, Benjamin L.—*Silver-Tin Mining in Bolivia*. [Old stope filling is being taken out, chloridized, leached and then concentrated for the tin residue].—E. & M. J. Sept. 23 1916; p 533; pp 3*; 25c.

Singewald, Joseph E.; Miller, Benjamin L.—*Prominent Mines of Junin, Peru*. [Three mines in the same district are described as regards their ore deposits. One is vanadium, one bismuth and the last silver].—E. & M. J. Sept. 30 1916; p 583; pp 4¾*; 25c.

Singewald, Joseph T., Jr.; Miller, Benjamin LeRoy.—*The Morococha and Casapalca Districts, Peru*. [A general review of the mines and their activities. Copper, silver and zinc are produced].—E. & M. J. Nov. 18 1916; p 889; pp 4½*; 25c.

Singewald, Joseph T., Jr.; Miller, Benjamin L.—*The Mining Industry of Bolivia*. [A general description, with some details of the people, geography of the country and operation and production of the mines].—E. & M. J. Dec. 9 1916; p 1005; pp 5*; 25c.

Way, Herbert, W. L.—*The Minerals of Sze-Chuan, China*. [Brief description of the deposits, their possibilities and operation. Salts have been mined, petroleum is plentiful and gold, silver and copper give promise].—Mg. Mag. July 1916; p 20; pp 4*; 50c.

— *Canadian Mining Corporation*. [Cost and other details of operation].—E. & M. J. Aug. 19 1916; p 348; pp 1¾; 25c.

— *Mining and Milling at the Santa Gertrudis, Mexico*. [The cyanide process is used here and the text is a discussion

of a previous paper].—A. I. M. E. Bull. Dec. 1916; p 2197; pp 3; 35c.

——— *New South Wales Department of Mines: Annual Report for 1915*. [A general review of mine operations and activities during the year].—N. S. W. Dept. of Mines, Sydney.

——— *Rhodesia Chamber of Mines, Annual Report, 1915*. [Questions brought up during the year are spoken of, with accounts of the production of various metals and a review of the labor bureau].—Rhodesia Chamber of Mines, 1915 Report; pp 71.

——— *Sullivan Mine, East Kootenay, B. C.* [A description of mine operations and production, with an account of the geology of the formation and nature and occurrence of the ore bodies].—Canadian Mg. Jnl. Sept. 15 1916; p 444; pp 2¼; 35c.

Ore Dressing, Metallurgy, Refining, Leaching, Etc.

Carpenter, Jay A.—*Ore Treatment at the West End, Tonopah, Nevada*. [Gives some costs and discusses in detail the results of operations rather than the methods].—M. & S. P. Aug. 5 1916; p 197; pp 1½; 20c.

Daman, Arthur C.—*The Nevada Wonder Mill*. [Describes a 150-ton cyanide process, where 10 tons per man per day are handled. The distribution of electric power is contained in tables].—E. & M. J. Nov. 25 1916; p 927*; pp 2*; 25c.

De Wolf, William P.—*Yavapai County, Arizona, Mines and Mills*. [A general review of current conditions, with some detailed information].—Mg. World Sept. 16 1916; p 503; pp 1¼; 10c.

Dunning, C. H.—*The Big Pine Cyanide Mill, Arizona*. [An 80-ton mill making 90% extraction at \$1.37 per ton. Lead, silver and gold, with no copper or zinc, makes up the ore].—E. & M. J. Dec. 16 1916; p 1043; pp 1¾*; 25c.

Handy, R. S.—*Bunker Hill & Sullivan Milling Data*. [Flow sheets and drawings, with brief description of operations and detailed cost sheet are dealt with].—E. & M. J. July 1 1916; p 35; pp 2¼*; 25c.

Higgins, Will C.—*New Milling Plant of Big Four Exploration at Park City, Utah*.—S. L. Mg. Rev. Aug. 30 1916; p 13; pp 3*; 25c.

Higgins, W. C. — *Operations at the South Hecla Mine at Alta, Utah*.—S. L. Mg. Rev. Aug. 15 1916; p 15; pp 2¾*; 25c.

Hughes, Ben. — *Concentrating Cobalt Silver Ores by the Oil Flotation Process*.

[Brief descriptions of plants using the system in the Cobalt district, Ontario].—Canadian Mg. Jnl. Aug. 1 1916; p 365; pp ¾; 35c.

King, J. T.—*Pulp and Metallic Assays*. [Abstract from the Jnl. of Am. Chem. Soc. Derives a formula for computing the value per ton from the assay of metallics which carry the ore's values and is separated from the pulp].—E. & M. J. Nov. 4 1916; p 827; pp ¾; 25c.

Mann, Horace T.; Clayton, C. Y.—*Cupellation Losses in Assaying*. [Contains considerable tabulated data and curves].—Mo. School of Mines Bull. II:3; pp 60*.

Neal, Walter.—*The Manganese and Silver Problem*. [Notes on investigations made to find a satisfactory method for treating silver-manganese ores].—Jnl. Chem., Met. & Mg. Soc. Aug. 1916; p 9; pp 9½; 35c.

Palmer, L. A.—*The Yellow Pine District, Nev.* [Describes the district, its geology and nature of the ore deposits found there. The systems of mining and milling are then reviewed and some details given].—E. & M. J. July 15 1916; p 123; pp 3*; 25c.

Parodi, Lorenzo.—*Ricordi e Note Sulla Metallurgia Italiana*. [A record of the metallurgical production of metals in Italy during 1914 and 1915].—Metallurgia Ital. April 30 1916; p 260; pp 15; \$1.

Power, Danvers F.—*Precipitation of Gold and Silver on Zinc Dust*. [A talk on the use of different forms of zinc for precipitation].—Mg. & Engg. Rev. Oct. 5, 1916; p 10; pp 1½; 35c.

Rickard, T. A.—*Electrolytic Refining at Trail, British Columbia*. [The five more common metals are produced here and the nuisance of sulphur fumes is entirely absent].—M. & S. P. Dec. 23 1916; p 903; pp 5*; 20c.

Rose, Hugh.—*Mining and Milling Practice at Santa Gertrudis, Pachuca, Mexico*. [A complete detailed description, with drawings].—Bull. A. I. M. E. Aug. 1916; p 1295; pp 38*; 35c.

Scott, W. A. — *Commonwealth Mine and Mill, Pearce, Arizona*. [Gives details on operations and description of methods used].—Mg. World July 29 1916; p 187; pp 1¼*; 10c.

Scott, W. A.—*Concentrating Mill Tailings near Park City, Utah*. [Concentration and haulage are dealt with. To get rid of zinc considerable of the lead and silver was lost formerly].—Mg. World Aug. 26 1916; p 359; pp 2½*; 10c.

Scott, W. A.—*El Dorado Canyon—*

Mining, Milling and Development. [The geology and operations of the mines and mills of several of the companies in the district are given].—Mg. World Dec. 16 1916; p 1023; pp 334*; 10c.

Scott, W. A.—*Notes on the Park City Mines and Mills, Utah.* [Describes several operating companies' operations].—Mg. World Sept. 2 1916; p 411; pp 134; 10c.

Scott, W. A.—*Operations at Battle Mountain, Nevada.*—Mg. World Aug. 19 1916; p 327; pp 2*; 10c.

Scott, W. A.—*Operations in the Tintic District, Utah.* [Describes the district and its operations in general, and then gives separate descriptions of the operations and methods of some of the companies].—Mg. World Sept. 30 1916; p 583; pp 134; 10c.

Scott, W. A.—*Operations of Silver King Coalition Mines Co., Park City, Utah.* [A general description of operations and equipment, including pumping and hoisting].—Mg. World Sept. 9 1916; p 447; pp 3*; 10c.

Scott, W. A.—*Sulphidizing Carbonate Tailings for Treatment by Oil Flotation.* [While being agitated the crushed ore as carbonate is changed to a metallic sulphide by the addition of sodium sulphide].—Mg. World Dec. 2 1916; p 946; pp 1; 10c.

Scott, W. A.—*The Tonopah Extension Mines in Nevada.*—Mg. World Nov. 11 1916; p 831; pp 1; 10c.

Sherwood, C. F.—*New Flotation Plant of the Prince Consolidated Co., Nevada.*—S. L. Mg. Rev. Aug. 30 1916; p 17; pp 1*; 25c.

Singewald, Joseph T., Jr.; Miller, Benjamin L.—*Silver-Tin Mining in Bolivia.* [Old stope filling is being taken out, chloridized, leached and then concentrated for the tin residue].—E. & M. J. Sept. 23 1916; p 533; pp 3*; 25c.

Thomson, Herbert G.—*Construction and Operation of the Nevada Packard Mill.* [A cyanide plant treating ore in which the principal mineral is cerargyrite].—M. & S. P. Sept. 9 1916; p 377; pp 8*; 20c.

White, H. A.—*The Manganese Silver Problem.* [Discussion of a paper by W. Neal on why low extraction only can be obtained in extracting silver in the presence of manganese].—Jnl. Chem. Met. & Mg. Soc. of S. Afr. Sept. 1916; p 39; pp 234; 50c.

Wright, W. H.—*Flotation Experiments, Department of Research and Testing, Colorado School of Mines.* [Tables and curves showing the results of tests made

on a lead-zinc-gold-silver-copper ore with many different oils].—Colo. School of Mines Qt'ly April 1916; p 1; pp 25*; 35c.

—*French Electrolytic Process.*—Mg. World Sept. 9 1916; p 450; pp 34; 10c.

—*Mining and Milling at the Santa Gertrudis, Mexico.* [The cyanide process is used here and the text is a discussion of a previous paper].—A. I. M. E. Bull. Dec. 1916; p 2197; pp 3; 35c.

—*Nevada Packard Mines Co.'s Mill.*—Mg. World Oct. 21 1916; p 707; pp 1*; 10c.

—*Some Notes on Lead Smelting in Tooele, Utah.* [A description of the International Smelting Co.'s plant].—E. & M. J. Dec. 23 1916; p 1100; pp 1; 25c.

—*The Influence of Silver Contents on Treatment of Gold Residues.* [From the W. A. Chamber of Mines Jnl., in which the results of tests made by the Great Boulder Perseverance Gold Co. are given and show that it is easier to dissolve the gold when the silver content is low].—Mg. & Engg. Rev. Nov. 6 1916; p 35; pp 1; 35c.

Geology

Butler, B. S.; Loughlin, G. F.—*A Reconnaissance of the Cottonwood-American Fork Mining Region, Utah.* [Notes on the history and production are given, with a detailed description of the formation and operations].—U. S. G. S. Bull. 620-I; pp 62*.

Capps, Stephen R.—*The Turnagain-Knik Region Alaska.* [On the geography, geology and mineral resources. Gold placers and gold-silver lodes are found in the district].—U. S. G. S. Bull. 642-E; pp 48*.

Loveman, M. H.—*The Geology of the Bawdwin Mines, Burma, Asia.* [Complete, detailed description of these lead-zinc sulphide deposits which have been worked since ancient times is given].—A. I. M. E. Bull. Dec. 1916; p 2119; pp 25*; 35c.

Moore, E. S.—*Observations on the Geology of the Broken Hill Lode, New South Wales.* [A complete geologic description of the formation, ore deposits and nature of the ore, citing instances at particular mines].—Eco. Geol. June 1916; p 327; pp 22*; 60c.

Paige, Sidney.—*Silver City, New Mexico, Folio.* [Large separate maps of the quadrangle, with a geologic description of the formation and ore deposits].—U. S. G. S. Folio No. 199; pp 19*.

Reid, J. H.—*The Comet Mine, Sundown, Ballandean, Queensland, Australia.*

[A geological description of the ore deposits and ore].—Queen. Govt. Mg. Jnl. June 15 1916; p 258; pp 2*; 35c.

Ries, Heinrich.—*Economic Geology*. [A brief review is made regarding the industry and occurrence of each mineral, including metals and non-metals].—John Wiley & Son; book; pp 856*; \$4.

Singewald, Joseph T., Jr.; Miller, Benjamin L.—*The Mining Industry of Bolivia*. [A general description, with some details of the people, geography of the country and operation and production of the mines].—E. & M. J. Dec. 9 1916; p 1005; pp 5*; 25c.

Way, Herbert, W. L.—*The Minerals of Sze-Chuan, China*. [Brief description of the deposits, their possibilities and operation. Salts have been mined, petroleum is plentiful and gold, silver and copper give promise].—Mg. Mag. July 1916; p 20; pp 4*; 50c.

Miscellaneous

Caesar, G. V.; Gerner, G. C.—*The Annealing Properties of Copper at Temperatures Below 500 Degrees, with Particular Reference to the Effect of Oxygen and of Silver*.—A. I. of Metals Adv. Paper No. 6; pp 43*; 35c.

Fulton, Charles H.—*The Buying and Selling of Ores and Metallurgical Products*. [Methods of sampling and the different ways in which ores are settled for and penalized are explained].—U. S. Bur. of Mines Tech. Paper 83; pp 42; 15c.

Miller, Benjamin L.; Singewald, J. T., Jr.—*Exploitation of Chilean Mines*. [Treats on the industries from an economic and industrial standpoint].—E. & M. J. Aug. 12 1916; p 289; pp 4½*; 25c.

Sisley, George E.—*\$137,849,595 in Dividends by Mines and Works in Half Year*.—Mg. World Aug. 5 1916; p 223; pp 5½*; 10c.

Spurr, J. E.—*The Relation of Ore-Deposition to Faulting*. [Sights various observations of this way of genesis of ore as noted in the field].—Eco. Geol. Nov. 1916; p 601; pp 22; 60c.

—*Six Months of Wonderful Prosperity for United States Mining*. [Reviews the first half of the year's production].—Mg. World Aug. 5 1916; p 229; pp 8½*; 10c.

Production

Bartels, Bergassessor.—*Russlands Gold, Platin, Blei, Silber und Zink Industrie im Jahre, 1912*. [Russia's gold, platinum, lead, silver and zinc industry in 1912. The review includes the production of the met-

als in Russia, Greater Russia and Siberia].—Zts. Berg., Hütten & Salinenw. Vol. 62 Ser. 3; p 217; pp 5; \$1.50.

Bell, Robert N.—*Mining Industry of Idaho for 1915*. [A general review of the industry in the state and separate reviews of the advances and doings of different mines].—Annual Report of Inspector of Mines 1915; pp 134*.

Brooks, Alfred H.—*Gold, Silver and Copper in Alaska in 1915*. [Discusses production and conditions in general and in detail by districts].—Min. Res. U. S. I:8; pp 12.

Brooks, Alfred H.—*The Alaskan Mining Industry in 1915*. [Reviews the production and conditions in different districts, with information on coal and metal mining law].—U. S. G. S. Bull. 642-A; pp 71*.

Butler, B. S.—*Copper in 1915*. [A prefatory note is given on gold, silver, copper, lead and zinc. This is followed by a detailed general report on copper production by states, by grades and from the mines and smelters of the country].—Min. Res. U. S. I:21; pp 68.

Cole, Arthur A.—*The Mining Industry in that Part of Northern Ontario Served by the T. & N. O. Railway*. [Covers the camps of Cobalt and Porcupine with respect to their production, activities, profits and costs].—T. & N. O. Commission, Toronto; Report; pp 71*.

Dunlop, J. P.; Butler, B. S.—*Silver, Copper, Lead and Zinc in the Central States in 1915*. [Separate reviews of the area, districts, states and companies].—Min. Res. of U. S. I:5; pp 93.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Utah in 1915*. [Separate reviews of operations and production of the different counties. Conditions of the industry in the state as a whole are given and each of the metals is reviewed separately].—Min. Res. of U. S. I:15; pp 35.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Arizona in 1915*. [Separate reviews of the metals and activities in each of the counties in the state].—Min. Res. of U. S. I:17; pp 37.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Montana in 1915*. [Separate reports of each metal and briefs on the metals collectively for each county].—Min. Res. of U. S. I:19; pp 36.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Utah in 1915*. [The production of each mineral is reviewed separate, as are the activities in each county of the state].—Min. Res. of U. S. I:15; pp 25.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Arizona* in 1915. [Separate reports of the metals and counties' activities and productions].—Min. Res. of U. S. I:17; pp 37.

Henderson, Charles W.—*Gold, Silver, Copper and Lead in South Dakota and Wyoming* in 1915. [The report is made by counties, each state being considered separately].—Min. Res. of U. S. I:13; pp 13.

Henderson, Charles W.—*Gold, Silver, Copper, Lead and Zinc in New Mexico and Texas* in 1915. [Each state is reviewed separately by counties and by separate metals for the state as a whole].—Min. Res. U. S. I:14; pp 27.

Henderson, Charles W.—*Gold, Silver, Copper and Lead in Wyoming and South Dakota*. [Separate reviews of operations and production of the states are given with briefs on each county].—Min. Res. of U. S. I:13; pp 14.

Henderson, Charles W.—*Gold, Silver, Copper, Lead and Zinc in New Mexico and Texas* in 1915. [Both states are reviewed separately and separate reviews of the metals produced and operations by counties are included].—Min. Res. of U. S. I:14; pp 27.

Henderson, Charles W.—*Gold, Silver, Copper, Lead and Zinc in Colorado* in 1915. [Each metal is reviewed separately for the whole state and followed by reviews of the separate mines and mills by counties as regards their operation and production].—Min. Res. of U. S. I:16; pp 64.

Parodi, Lorenzo.—*Ricordi e Note Sulla Metallurgia Italiana*. [A record of the metallurgical production of metals in Italy during 1914 and 1915].—*Metallurgia Ital.* April 30 1916; p 260; pp 15; \$1.

Ryan, Edward.—*Biennial Report of the State Inspector of Mines, Nevada, 1913-1914*. [An account of the metal production by counties and separate descriptions of accidents].—Report; pp 52.

Wagner, William.—*Coeur d'Alene Mining Information*. [Financial statements of the larger companies are given and production and value thereof for the smaller ones. Brief separate accounts of each company in the district are also given].—Wagner, Wallace, Ida.; book; pp 174; \$4.

Yale, Charles G.—*Gold, Silver, Copper, Lead and Zinc in California* in 1915.—Min. Res. of U. S. I:10; pp 51.

Yale, Charles G.—*Gold, Silver, Copper, Lead and Zinc in California and Oregon* in 1915. [Reviews the production by

counties and in general].—Min. Res. of U. S. I:10; pp 51.

—*British Columbia Annual Report of the Minister of Mines for 1915*. [Reviews metal production in general for the province and in detail for operating companies].—Mg. Engg. & Elect. Rec. Aug. 1916; p 76; pp 3½; 35c.

—*California Mineral Production*.—E. & M. J. Dec. 2 1916; p 971; pp 1½; 25c.

—*Metal Production of Ontario, First Half of 1916*.—Mg. World Oct. 7 1916; p 626; pp 1; 10c.

—*New South Wales Department of Mines: Annual Report for 1915*. [A general review of mine operations and activities during the year].—N. S. W. Dept. of Mines, Sydney.

—*Ontario's Metal Production*. [From the Canadian Bureau of Mines report].—Canadian Mg. Jnl. Dec. 1 1916; p 555; pp 1¼; 35c.

—*Rhodesia Chamber of Mines: Annual Report, 1915*. [Questions brought up during the year are spoken of, with accounts of the production of various metals and a review of the labor bureau].—Rhodesia Chamber of Mines, 1915 Report; pp 71.

—*Rhodesia Report of the Executive Committee of the Chamber of Mines and Production of Gold and Other Minerals in May, 1916*. [The production of operating gold companies are given individually].—Rhodesia Chamber of Mines Report May 1916; pp 6.

—*Sullivan Mine, East Kootenay, B. C.* [A description of mine operations and production, with an account of the geology of the formation and nature and occurrence of the ore bodies].—Canadian Mg. Jnl. Sept. 15 1916; p 444; pp 2¼; 35c.

—*United States Mint, Report of the Director for the Year of 1916*. [A report of the production of precious metals for 1915 and the Mint's operations to June 30, 1916].—Treasury Dept. Annual Report of Mint; pp 286.

PLATINUM

Bartels, Bergassessor.—*Russlands Gold, Platin, Blei, Silber und Zink Industrie im Jahre, 1912*. [Russia's gold, platinum, lead, silver and zinc industry in 1912. The review includes the production of the metals in Russia, Greater Russia and Siberia].—Zts. Berg., Hütten & Salinenw. Vol. 62 Ser. 3; p 217; pp 5; \$1.50.

Duparc, Louis.—*El Platino*. [A paper read before the Assn. of Eng. of France,

dealing with the geology and occurrence of platinum in the Ural mountains of Russia].—*Revista Minera* Aug. 1 1916; p 367; pp 3¼; 35c.

Figueroa, T.; Carbonell, A.—*Notas Sobre Los Yacimientos Bismutíferos de Azuel, Cordoba, Spain*. [Notes on the nature and production of a bismuth ore in Spain].—*Revista Minera* Oct. 16 1916; p 491; pp 2; 35c.

Gruetter, T. W.—*Platinum on the Pacific Coast*. [On the qualities and places at which platinum is found and methods are briefly described for recovering the metal].—*M. & S. P.* July 1 1916; p 20; pp 1¼; 20c.

Hill, James M.—*Platinum and Allied Metals in 1915*. [Reviews production in general, by states and foreign countries. Methods of refining and extracting from other metals is spoken of briefly].—*Min. Res. of U. S.* I:6; pp 19.

Jimenez, Carlos P.—*Estadística Minera en 1914, Peru*. [Mineral statistics of

Peru in 1914].—*Cuerpo de Ingenieros de Minas Boletín* No. 82; pp 150.

Lang, Herbert.—*Black Sand of the Pacific Coast*. [Tells of the mode of occurrence of these deposits which are not of large tonnages, and discusses the possibilities of more extensively working them].—*M. & S. P.* Dec. 2 1916; p 811; pp 2¾; 20c.

Lowell, F. L.—*Mines and Mineral Resources of Del Norte, Humboldt and Mendocino Counties, California*. [Reviews operations in detail, locates separate deposits and describes them].—*Calif. Mg. Bur.*; pp 59*.

Scott, W. A.—*Activity in the Goodsprings District, Nevada*. [Speaks briefly of the different mines in the district as regards their operations and production].—*Mg. World* Dec. 23 1916; p 1069; pp 3*; 10c.

——— *California Mineral Production*.—*E. & M. J.* Dec. 2 1916; p 971; pp 1½; 25c.

CHAPTER III.

COPPER.

Mines and Mining

Blood, Clifford C.—*Pinos Altos District, Grant County, New Mexico*. [A description of the district, its properties and their operation].—Mg. World Oct. 14 1916; p 659; pp 2*; 10c.

Bradley, Walter W.—*Mines and Mineral Resources of Colusa, Glenn, Lake, Marin, Napa, Solano, Sonoma and Yolo Counties, California*. [Separate descriptions of mines, deposits and operations of mines and plants].—Calif. Mg. Bur.; pp 208*.

Brinsmade, Robert B.—*Two Washington Mining Districts*. [The districts are known as Metaline Falls and Bald Mountain. Zinc, lead, copper and gold are found with some silver. The various properties and their activities are spoken of briefly].—M. & S. P. Nov. 18 1916; p 743; pp 2½*; 20c.

Brooks, Alfred H.—*Gold, Silver and Copper in Alaska in 1915*. [Discusses production and conditions in general and in detail by districts].—Min. Res. U. S. I:8; pp 12.

Brown, G. Chester.—*Mines and Mineral Resources of Shasta, Siskiyou and Trinity Counties, California*. [Copper and gold are the principal minerals, though many others occur in the district].—Calif. Mg. Bur.; pp 192*.

Browne, P. W.—*Mineral Resources of Newfoundland*. [A review of the possibilities in operating the iron ore and copper deposits of the province. The past production of mines is given].—Canadian Mg. Jnl. Sept. 15 1916; p 437; pp 1¼; 35c.

Burch, H. K.—*The Inspiration Mine Plant*. [Abst. from a paper read before the A. I. M. E. Describes the equipment and methods used for handling the ore from the mine, both underground and on surface].—E. & M. J. Sept. 23 1916; p 537; pp 5¾*; 25c.

Burch, Kenyon.—*Mine and Mill Plant of the Inspiration Consolidated Copper Co., Arizona*. [A complete description of plant equipment and operations, from underground pockets to the finished concentrate].—Bull. A. I. M. E. Sept. 1916; p 1467; pp 33*; 35c.; M. & S. P. Dec. 2 1916; p 801; pp 5¾*; 20c.; E. & M. J. Sept. 9 1916; p 457; pp 3½*; 25c.

Butler, B. S.—*Copper in 1915*. [A prefatory note is given on gold, silver,

copper, lead and zinc. This is followed by a detailed general report on copper production by states, by grades and from the mines and smelters of the country].—Min. Res. U. S. I:21; pp 68.

Chapin, Theodore; Canfield, George H.—*Mining Developments and Water-Power Investigation in Southeastern Alaska*. [The gold and copper mines are described by districts in which they are located and reviews are made of sources of water power].—U. S. G. S. Bull. 642-B; pp 55*.

Coleman, A. P.—*Chief Minerals of the Sudbury Nickel Ores*. [The location and nature of the particular minerals found in the field].—Canadian Mg. Jnl. Aug. 15 1916; p 388; pp 1¼*; 35c.

Cooper, Lloyd D.—*Sinking the Walenberg Shaft, Norway*. [The work was contracted for by E. J. Longyear Co. Operations and methods are described].—E. & M. J. Nov. 4 1916; p 811; pp 3*; 25c.

De Wolf, William P.—*Reopening Old Mines in Arizona*.—Mg. World Aug. 19 1916; p 329; pp 2¼*; 10c.

De Wolf, William P.—*Yavapai County, Arizona, Mines and Mills*. [A general review of current conditions, with some detailed information].—Mg. World Sept. 16 1916; p 503; pp 1¼; 10c.

Duff, J. E.—*Northwestern Country Tributary to Spokane Is a Great Mineral Producer*. [Deals with the activities and results obtained at the various mines and plants in the area which includes British Columbia and United States].—Mg. World Nov. 18 1916; p 871; pp 3¼*; 10c.

Figuerola, T.; Carbonell, A. — *Notas Azuel, Cordoba, Spain*. [Notes on the nature and production of a bismuth ore in Spain].—Revista Minera Oct. 16 1916; *Sobre Los Yacimientos Bismutíferos de* p 491; pp 2; 35c.

Hillen, A. G.—*Mines and Mining Operations at Ely, Nevada*. [A review of operations, with specific information on power equipment being used].—Mg. World Sept. 2 1916; p 403; pp 5*; 10c.

Hurja, E. E.—*The Ketchikan District, Alaska*. [Reviews the progress and operations of the principal mines].—M. & S. P. July 29 1916; p 163; pp 3*; 20c.

Johnson, Bertrand L. — *Mining on Prince William Sound, Alaska*. [Gold, silver and copper mines and plants are reviewed separately by districts. Geology

and mineralogy are reviewed in a general way].—U. S. G. S. Bull. 642-D; pp 9.

Junghann, Dr.—*Die Kupfergrube Chuquicamata in Chile*. [The copper deposits in Chile].—Zts. Berg, Hütten & Salinenw. Band 62, 1914; p 411; pp 5*; \$1.50.

Lehman, George R.—*Ore Drawing Tests and the Resulting Mining Method of the Inspiration Consolidated Copper Co., Arizona*. [Describes the caving system and the tests which lead to its adoption].—Bull. A. I. M. E. Sept. 1916; p 1501; pp 14*; 35c.

Lowell, F. L.—*Mines and Mineral Resources of Del Norte, Humboldt and Mendocino Counties, California*. [Reviews operations in detail, locates separate deposits and describes them].—Calif. Mg. Bur.; pp 59*.

Maguire, Don.—*The Copper Mines of Wolf Mountain, Cache County, Utah*. [A general and geological description of the district].—S. L. Mg. Rev. Sept. 15 1916; p 17; pp 2½*; 25c.

McDonald, P. B.—*Two Great Copper Mines Compared*. [Compares operations, production, etc., of the Calumet and Hecla and Nevada Con. Co.'s].—M. & S. P. Sept. 9 1915; p 391; pp 1½; 20c.

Merrill, Frederick J. H.—*Geology and Mineral Resources of San Diego and Imperial Counties*. [Though gold is the principal metal mined considerable is done in the non-metallic industry].—Calif. Mg. Bur. pp 113*.

Miller, Benjamin L.; Singewald, J. T., Jr.—*Exploitation of Chilean Mines*. [Treats on the industries from an economic and industrial standpoint].—E. & M. J. Aug. 12 1916; p 289; pp 4¼*; 25c.

Moffit, Fred H.—*Mineral Resources of the Upper Chitina Valley, Alaska*. [A district in which copper and gold have been found, but which has been prospected but little].—U. S. G. S. Bull. 642-C; pp 8*.

Moore, H. W.—*Blasting Practice at Chuquicamata, Chile*. [A system of electric blasting. Tunnels are made and loaded with powder for the blasting of large blocks of ground].—M. & S. P. July 8 1916; p 60; pp 2*; 20c.

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Matley, H. A.—*Canadian Metal Trades and Preparedness.* [Deals with the production and market prices of lead and copper in Canada. Separate reviews of provinces are given].—Canadian Mg. Inst. Bull. Sept. 1916; p 783; pp 7; 50c.

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Stead, J. E.—*Influence of Some Elements on the Mechanical Properties of Steel.* [Gives the results of tests made on steels containing small amounts of other metals, as copper, tin, silicon, phosphorus, sulphur, etc.].—Iron & Steel Inst. Adv. Copy; pp 91*; 50c.; I & C. Tr. Rev. Sept. 22 1916; p 350; pp 2¼*; 35c.

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Production

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in detail by districts].—Min. Res. U. S. I:8; pp 12.

Brooks, Alfred H.—*Mineral Resources of Alaska*. [Descriptions of mines and deposits reviewing their production, geology and geography. The coal mining lease laws are also spoken of].—U. S. G. S. Bull. 642; pp 279*.

Brooks, Alfred H.—*The Alaskan Mining Industry in 1915*. [Reviews the production and conditions in different districts, with information on coal and metal mining law].—U. S. G. S. Bull. 642-A; pp 71*.

Butler, B. S.—*Copper in 1915*. [A prefatory note is given on gold, silver, copper, lead and zinc. This is followed by a detailed general report on copper production by states, by grades and from the mines and smelters of the country].—Min. Res. U. S. I:21; pp 68.

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Figuerola, T.; Carbonell, A.—*Notas Azuel, Cordoba, Spain*. [Notes on the nature and production of a bismuth ore in Spain].—Revista Minera Oct. 16 1916; *Sobre Los Yacimientos Bismutíferos de p* 491; pp 2; 35c.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Utah in 1915*. [Separate reviews of operations and production of the different counties. Conditions of the industry in the state as a whole are given and each of the metals is reviewed separately].—Min. Res. of U. S. I:15; pp 35.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Arizona in 1915*. [Separate reviews of the metals and activities in each of the counties in the state].—Min. Res. of U. S. I:17; pp 37.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Montana in 1915*. [Separate reports of each metal and briefs on the metals collectively for each county].—Min. Res. of U. S. I:19; pp 36.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Utah in 1915*. [The production of each mineral is reviewed separate, as are the activities in each county of the state].—Min. Res. of U. S. I:15; pp 25.

Heikes, C. V.—*Gold, Silver, Copper, Lead and Zinc in Arizona in 1915*. [Separate reports of the metals and counties'

activities and productions].—Min. Res. of U. S. I:17; pp 37.

Henderson, Charles W.—*Gold, Silver, Copper and Lead in South Dakota and Wyoming in 1915*. [The report is made by counties, each state being considered separately].—Min. Res. of U. S. I:13; pp 13.

Henderson, Charles W.—*Gold, Silver, Copper, Lead and Zinc in New Mexico and Texas in 1915*. Each state is reviewed separately by counties and by separate metals for the state as a whole].—Min. Res. U. S. I:14; pp 27.

Henderson, Charles W.—*Gold, Silver, Copper and Lead in Wyoming and South Dakota*. [Separate reviews of operations and production of the states are given with briefs on each county].—Min. Res. of U. S. I:13; pp 14.

Henderson, Charles W.—*Gold, Silver, Copper, Lead and Zinc in New Mexico and Texas in 1915*. [Both states are reviewed separately and separate reviews of the metals produced and operations by counties are included].—Min. Res. of U. S. I:14; pp 27.

Henderson, Charles W.—*Gold, Silver, Copper, Lead and Zinc in Colorado in 1915*. [Each metal is reviewed separately for the whole state and followed by reviews of the separate mines and mills by counties as regards their operation and production].—Min. Res. of U. S. I:16; pp 64.

Hill, James M.—*Platinum and Allied Metals in 1915*. [Reviews production in general, by states and foreign countries. Methods of refining and extracting from other metals is spoken of briefly].—Min. Res. of U. S. I:6; pp 19.

Jimenez, Carlos P.—*Estadística Minera en 1914, Peru*. [Mineral statistics of Peru in 1914].—Cuerpo de Ingenieros de Minas Boletín No. 82; pp 150*.

Johnson, Bertrand L.—*Mining on Prince William Sound, Alaska*. [Gold, silver and copper mines and plants are reviewed separately by districts. Geology and mineralogy are reviewed in a general way].—U. S. G. S. Bull. 642-D; pp 9.

Ortega, Pablo.—*Boletín De Minas, Cuba*. [Reviews the operations and production of the mines, mostly in the province of Pinar del Rio. The nature of the deposits and mines of the various companies are described. Several tables of statistics are given in the concluding pages].—Secretaría de Agricultura, Comercio y Minas, Bull. No. 1; pp 157*.

Ryan, Edward.—*Biennial Report of the State Inspector of Mines, Nevada, 1913-1914*. [An account of the metal produc-

tion by counties and separate descriptions of accidents].—Report; pp 52.

Yale, Charles G.—*Gold, Silver, Copper, Lead and Zinc in California in 1915*.—Min. Res. of U. S. I:10; pp 51.

Yale, Charles G.—*Gold, Silver, Copper, Lead and Zinc in California and Oregon in 1915*. [Reviews the production by counties and in general].—Min. Res. of U. S. I:10; pp 51.

——— *British Columbia Annual Report of the Minister of Mines for 1915*. [Reviews metal production in general for the province and in detail for operating companies].—Mg. Engg. & Elect. Rec. Aug. 1916; p 76; pp 3½; 35c.

——— *British Columbia Report of the Minister of Mines*. [On the production and mineral industry of the province].—Mg. & Eng. Rec. Oct. 1916; p 92; pp 1½; 35c.

——— *Butte & Superior's Operations for the Second Quarter*.—Mg. World Sept. 9 1916; p 457; pp 1¼*; 10c.

——— *California Mineral Production*.—E. & M. J. Dec. 2 1916; p 971; pp 1½; 25c.

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——— *Mining in India*. [From production statistics issued by the Indian Geol. Surv.].—Mg. Jnl. Dec. 9 1916; p 812; pp 2; 35c.

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general review of mine operations and activities during the year].—N. S. W. Dept. of Mines, Sydney.

——— *New South Wales in 1915*. [Reviews the production of metals in the country].—Mg. Jnl. Sept. 2 1916; p 596; pp 2; 35c.

——— *Ontario's Metal Production*. [From the Canadian Bureau of Mines report].—Canadian Mg. Jnl. Dec. 1 1916; p 555; pp 1¼; 35c.

——— *Pretoria Inspectorate of Mines 1915 Annual Report*.—S. Afr. Mg. Jnl. Oct. 7 1916; p 122; pp 1; 35c.

——— *Quebec Mining Industry—A Review for the First Half of 1916*. [Brief accounts of operations at various properties].—Canadian Mg. Inst. Bull. Sept. 1916; p 796; pp 4; 50c.

——— *Rhodesia Chamber of Mines Report of the Executive Committee*. [Tables of details on the production of gold and asbestos properties in the district are given].—Rhodesia Chamber of Mines Report Aug. 1916; pp 6*.

——— *Rhodesia Report of the Executive Committee of the Chamber of Mines and Production of Gold and Other Minerals in May 1916*. [The production of operating gold companies is given individually].—Rhodesia Chamber of Mines Report May 1916; pp 6.

——— *Six Months of Wonderful Prosperity for United States Mining*. [Reviews the first half of the year's production].—Mg. World Aug. 5 1916; p 229; pp 8¼*; 10c.

CHAPTER IV.

LEAD, ZINC AND CADMIUM.

LEAD

Mines and Mining

Ball, Sydney H.—*The Lead Mines of Washington County, Missouri*. [A brief description of the geology of the deposits and operations and methods of working the deposits].—M. & S. P. Dec. 2 1916; p 807; pp 3¼*; 20c.

Bartels, Bergassessor.—*Russlands Gold, Platin, Blei, Silber und Zink Industrie im Jahre 1912*. [Russia's gold, platinum, lead, silver and zinc industry in 1912. The review includes the production of the metals in Russia, Greater Russia and Siberia].—Zts. Berg., Hütten & Salinenw. Vol. 62 Ser. 3; p 217; pp 5; \$1.50.

Bell, Robert N.—*Mining Industry of Idaho for 1915*. [A general review of the industry in the state and separate reviews of the advance and doings of different mines].—Annual Report of Inspector of Mines, 1915; pp 134*.

Brinsmade, Robert B.—*Two Washington Mining Districts*. [The districts are known as Metaline Falls and Bald Mountain. Zinc, lead, copper and gold are found with some silver. The various properties and their activities are spoken of briefly].—M. & S. P. Nov. 18 1916; p 743; pp 2½*; 20c.

De Wolf, William P.—*Yavapai County, Arizona, Mines and Mills*. [A general review of current conditions, with some detailed information].—Mg. World Sept. 16 1916; p 503; pp 1¼; 10c.

Duff, J. E.—*Northwestern Country Tributary to Spokane Is a Great Mineral Producer*. [Deals with the activities and results obtained at the various mines and plants in the area which includes British Columbia and United States].—Mg. World Nov. 18 1916; p 871; pp 3¼*; 10c.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Utah in 1915*. [Separate reviews of operations and production of the different counties. Conditions of the industry in the state as a whole are given and each of the metals is reviewed separately].—Min. Res. of U. S. I:15; pp 35.

Higgins, W. C.—*Operations at the South Hecla Mine at Alta, Utah*.—S. L. Mg. Rev. Aug. 15 1916; p 15; pp 2¼*; 25c.

Hillen, A. G.—*Review of Conditions in the Eureka Mining District, Nevada*.

[A general review of operations and conditions both past and present].—Mg. World Sept. 30 1916; p 571; pp 4*; 10c.

Hodgkinson, H. H.—*Mining Ore from Pillars*. [A method used by the New Jersey Zinc Co. It is a combination where top-slicing is begun at the bottom of the body and raised from level to level by shrinkage stoping].—E. & M. J. July 29 1916; p 217; pp 2¼*; 25c.

Lakes, Arthur.—*The Electric-Point Mine in Washington*. [A vivid description of the mine workings and geology of the ore and allied formation, with some notes as to the genesis of the ores].—Mg. World Dec. 9 1916; p 991; pp 1¼*; 10c.

Larson, A. G.; Lakes, Arthur, Jr.—*Slocan Star Mine, British Columbia*. [Abstract of a report made by the authors on this mine, in which details regarding it are given].—Mg. & Engg. Rec. Oct. 1916; p 96; pp 4¼*; 35c.

Lewis, J. H.—*Zinc and Lead Districts of Wisconsin*. [On the mining and smelter operations and production during the first half of 1916].—Mg. World Aug. 5 1916; p 243; pp 4*; 10c.

Lyon, Burt W.—*Half-Year in the Joplin Lead Zinc District, Missouri*. [Reviews prices, production and operations].—Mg. World Aug. 5 1916; p 239; pp 3*; 10c.

Palmer, L. A.—*The Yellow Pine District, Nev.* [Describes the district, its geology and nature of the ore deposits found there. The system of mining and milling are then reviewed and some details given].—E. & M. J. July 15 1916; p 123; pp 3*; 25c.

Root, W. A.—*Aspen, Over the Range in Pitkin County, Colorado*. [The history of the camp and several of the companies operating in it are included in the description].—Mg. World Dec. 2 1916; p 943; pp 2¾*; 10c.

Scott, W. A.—*Activity in the Goodsprings District, Nevada*. [Speaks briefly of the different mines in the district as regards their operations and production].—Mg. World Dec. 23 1916; p 1069; pp 3*; 10c.

Scott, W. A.—*El Dorado Canyon—Mining, Milling and Development*. [The geology and operations of the mines and mills of several of the companies in the district are given].—Mg. World Dec. 16 1916; p 1023; pp 3¼*; 10c.

Scott, W. A.—*Mining and Milling at Robinson, Colorado*. [Describes the mines and plant of the Progress Co. Flotation is used in the mill].—Mg. World Nov. 18 1916; p 865; pp 1¼*; 10c.

Scott, W. A.—*Notes on the Park City Mines and Mills, Utah*. [Describes several operating companies' operations].—Mg. World Sept. 2 1916; p 411; pp 1¾; 10c.

Scott, W. A.—*Operations of Silver King Coalition Mines Co., Park City, Utah*. [A general description of operations and equipment, including pumping and hoisting].—Mg. World Sept. 9 1916; p 447; pp 3*; 10c.

Scott, W. A.—*Operations in the Tintic District, Utah*. [Describes the district and its operations in general, and then gives separate descriptions of the operations and methods of some of the companies].—Mg. World Sept. 30 1916; p 583; pp 1¾; 10c.

Speed, F. B., Jr.—*Lead-Zinc Mining in Virginia*. [A review of operations].—E. & M. M. Sept. 16 1916; p 511; pp ¾; 25c.

Wittich, L. L.—*Mining and Milling in Arkansas*. [Abst. from the News Herald. Describes the geology, operations and methods].—M. & S. P. Sept. 9 1916; p 385; pp 1½*; 20c.

—*Sullivan Mine, East Kootenay, B. C.* [A description of mine operations and production, with an account of the geology of the formation and nature and occurrence of the ore bodies].—Canadian Mg. Jnl. Sept. 15 1916; p 444; pp 2¼; 35c.

Ore Dressing, Metallurgy, Chemistry, Etc.

Clayton, C. Y.—*Experiments from the Flotation Laboratory*. [Considerable of the text has to do with the nature of different oils. Description of laboratory flotation machines and tests made on different ores are also given].—Mo. School of Mines Bull. Aug. 1916; pp 40*.

Dunning, C. H.—*The Big Pine Cyanide Mill, Arizona*. [An 80-ton mill making 90% extraction at \$1.37 per ton. Lead, silver and gold, with no copper or zinc, makes up the ore].—E. & M. J. Dec. 16 1916; p 1043; pp 1¾*; 25c.

Dwight, Arthur S.—*Lead-Smelting Practice in the United States*. [Advancements have been chiefly in changing the charge to the furnace].—E. & M. J. Oct. 7 1916; p 671; pp 6¾*; 25c.

Edmonds, H. R.—*Some Notes on the Effect of Lead Salts and of Varying Degree of Alkalinity on the Solvent Power of Cyanide Solution for Gold*. [The re-

sults of tests are tabulated and described].—Jnl. Chamber of Mines West Aust. April 29 1916; p 63; pp 8; 75c.

Handy, R. S.—*Bunker Hill & Sullivan Milling Data*. [Flow sheets and drawings with brief description of operations and detailed cost sheet are dealt with].—E. & M. J. July 1 1916; p 35; pp 2¼*; 25c.

Higgins, Will C.—*New Milling Plant of Big Four Exploration at Park City, Utah*.—S. L. Mg. Rev. Aug. 30 1916; p 13; pp 3*; 25c.

Johnson, J. E., Jr.—*Blast Furnace Irregularities and Their Treatment*. [Treats on the troubles of the water supply to the water jackets].—Met. & Chem.-Engg. Aug. 1 1916; p 127; pp 3½; 35c.

Lewis, J. H.—*Zinc and Lead Districts of Wisconsin*. [On the mining and smelter operations and production during the first half of 1916].—Mg. World Aug. 5 1916; p 243; pp 4*; 10c.

Lindau, S. Paul.—*Matte Granulation at Herculaneum, Mo.* [Method used by the St. Joseph Lead Co., Mo.].—Bull. A. I. M. E. Nov. 1916; p 2057; pp 5*; 35c.

Lomas, Garcia.—*Jucio Critico Sobre la Aplicacion del Moderno Horno Escoces a Nuestros Minerales de Plomo*. [On the application of the modern Scotch furnace and Spanish lead ores].—Revista Minera Aug. 24 1916; p 401; pp 2; 35c.

Palmer, Leroy A.—*Some Zinc-Lead Mills of California and Nevada*. [Descriptions of some mills and a review of the general practice].—Met. & Chem. Engg. Aug. 15 1916; p 203; pp 2*; 35c.

Palmer, L. A.—*The Yellow Pine District, Nev.* [Describes the district, its geology and nature of the ore deposits found there. The system of mining and milling are then reviewed and some details given].—E. & M. J. July 15 1916; p 123; pp 3*; 25c.

Parodi, Lorenzo.—*Ricordi e Note Sulla Metallurgia Italiana*. [A record of the metallurgical production of metals in Italy during 1914 and 1915].—Metallurgia Ital. April 30 1916; p 260; pp 15; \$1.

Rain, Allan D.—*The Separation of Galena from Blende by the Horwood Process of Flotation*. [Abst. from Teniente Topics].—M. & S. P. Oct. 7 1916; p 529; pp 1½; 20c.

Ralston, O. C.; Allen, Glen L.—*The Flotation of Oxidized Ores*. [Discusses problems encountered in flotating different kinds of oxide ores. The results of some tests are given].—Mg. World July 22 1916; p 137; pp 3¾; 10c.

Rickard, T. A.—*Electrolytic Refining at Trail, British Columbia*. [The five more common metals are produced here and the nuisance of sulphur fumes is entirely absent].—M. & S. P. Dec. 23 1916; p 903; pp 5*; 20c.

Scott, W. A.—*Concentrating Mill, Tailings Near Park City, Utah*. [Concentration and haulage are dealt with. To get rid of zinc considerable of the lead and silver was lost formerly].—Mg. World Aug. 26 1916; p 359; pp 2½*; 10c.

Scott, W. A.—*El Dorado Canyon—Mining, Milling and Development*. [The geology and operations of the mines and mills of several of the companies in the district are given].—Mg. World Dec. 16 1916; p 1023; pp 3¾*; 10c.

Scott, W. A.—*Mining and Milling at Robinson, Colorado*. [Describes the mines and plant of the Progress Co. Flotation is used in the mill].—Mg. World Nov. 18 1916; p 865; pp 1¾*; 10c.

Scott, W. A.—*Notes on the Park City Mines and Mills, Utah*. [Describes several operating companies' operations].—Mg. World Sept. 2 1916; p 411; pp 1¾; 10c.

Scott, W. A.—*Operations of Silver King Coalition Mines Co., Park City, Utah*. [A general description of operations and equipment, including pumping and hoisting].—Mg. World Sept. 9 1916; p 447; pp 3*; 10c.

Scott, W. A.—*Operations in the Tintic District, Utah*. [Describes the district and its operations in general, and then gives separate descriptions of the operations and methods of some of the companies].—Mg. World Sept. 30 1916; p 583; pp 1¾; 10c.

Scott, W. A.—*Sulphidizing Carbonate Tailings for Treatment by Oil Flotation*. [While being agitated the crushed ore as carbonate is changed to a metallic sulphide by the addition of sodium sulphide].—Mg. World Dec. 2 1916; p 946; pp 1; 10c.

Sherwood, C. F.—*New Flotation Plant of the Prince Consolidated Co., Nevada*.—S. L. Mg. Rev. Aug. 30 1916; p 17; pp 1*; 25c.

Sims, Clarence E.; Ralston, O. C.—*The Electrolytic Recovery of Lead from Brine Leaches*. [The results of experimental work and operations with this method of procedure are given].—Amer. Electrochem. Soc. Adv. Copy 11; p 185; pp 15; 35c.; Met. & Chem. Engg. Oct. 1 1916; p 410; pp 4*; 35c.

Tournay-Hinde, A. W.—*The Flow of Air in Lead Blast Furnaces*. [A paper read before the Engg. Assn. of New

South Wales. Reviews investigations made along this line in Australia].—Mg. & Engg. Rev. June 5 1916; p 229; pp 1¾; 35c.; E. & M. J. Aug. 26 1916; p 392; pp 1; 25c.

Vail, Richard H.—*Tuyere Connections for Copper and Lead Blast Furnaces*. [Detail drawings and descriptions for different constructions are given].—E. & M. J. Oct. 7 1916; p 639; pp 4¼*; 25c.

Waddell, J.—*The Volumetric Determination of Lead*.—Analyst No. 16 1916; p 270; pp 3; 35c.

Whitaker, W. A.; Belchic, George; Neal, Roy; Van Velzer, H. L.—*Flotation Experiments on a Joplin Tailing*. [The results from using a number of different oils are tabulated and discussed. Testing was done with 400-gm. samples].—Met. & Chem. Engg. Aug. 1 1916; p 131; pp 7; 35c.

Wittich, L. L.—*Mining and Milling in Arkansas*. [Abst. from the News Herald. Describes the geology, operations and methods].—M. & S. P. Sept. 9 1916; p 385; pp 1½*; 20c.

Wright, Clarence A.—*Jig Concentration in the Joplin District, Missouri*. [Abst. from the Joplin Globe].—M. & S. P. Sept. 2 1916; p 357; pp 1¼*; 20c.

Wright, W. H.—*Flotation Experiments, Department of Research and Testing, Colorado School of Mines*. [Tables and curves showing the results of tests made on a lead-zinc-gold-silver-copper ore with many different oils].—Colo. School of Mines Qt'y April 1916; p 1; pp 25*; 35c.

——— *Concentration and Flotation of Lead Ores in Southeast Missouri*. [Editorial correspondence].—Met. & Chem. Engg. July 15 1916; p 93; pp 3; 30c.

——— *French Electrolytic Process*.—Mg. World Sept. 9 1916; p 450; pp ¾; 10c.

——— *Some Notes on Lead Smelting in Tooele, Utah*. [A description of the International Smelting Co.'s plant].—E. & M. J. Dec. 23 1916; p 1100; pp 1; 25c.

——— *Treating Zinc-Lead Tailings in Utah*. [Flotation is used for this work].—Mg. World Sept. 2 1916; p 408; pp ¾*; 10c.

——— *United States Metals Refining Co.'s Plant, Grasselli, Indiana*. [A description of the steam and electric power plants at the electrolytic lead refinery].—Pract. Eng. Aug. 1 1916; p 641; pp 4¼*; 20c.

Geology

Ball, Sydney H.—*The Lead Mines of Washington County, Missouri*. [A brief

description of the geology of the deposits and operations and methods of working the deposits].—M. & S. P. Dec. 2 1916; p 807; pp 3¼*; 20c.

Ball, Sydney H.; Thompson, L. S.—*The Southwest Virginia Lead-Zinc Deposits*. [The authors argue that the deposits were made by waters of magnetic origin].—E. & M. J. Oct. 21 1916; p 735; pp 2¼*; 25c.

Bancroft, J. Austen.—*Mining Operations in Quebec During 1915*. [A separate report on the geology of the zinc-lead deposits in Portneuf county is included].—Quebec Dept. of Mines; Report; pp 146*.

Butler, B. S.; Loughlin, G. F.—*A reconnaissance of the Cottonwood-American Fork Mining Region, Utah*. [Notes on the history and production are given, with a detailed description of the formation and operations].—U. S. G. S. Bull. 620-I; pp 62*.

Higgins, W. C.—*Operations at the South Hecla Mine at Alta, Utah*.—S. L. Mg. Rev. Aug. 15 1916; p 15; pp 2¼*; 25c.

Hillen, A. G.—*Review of Conditions in the Eureka Mining District, Nevada*. [A general review of operations and conditions both past and present].—Mg. World Sept. 30 1916; p 571; pp 4*; 10c.

Lakes, Arthur.—*The Electric-Point Mine in Washington*. [A vivid description of the mine workings and geology of the ore and allied formation, with some notes as to the genesis of the ores].—Mg. World Dec. 9 1916; p 991; pp 1¼*; 10c.

Lee, Wallace.—*Geology of the Kentucky Part of the Shawneetown Quadrangle*. [The economic deposits are composed of coal, oil, lead, zinc and clay].—Kentucky Geol. Surv.; pp 73.

Loveman, M. H.—*The Geology of the Bawdwin Mines, Burma, Asia*. [Complete, detailed description of these lead-zinc sulphide deposits which have been worked since ancient times is given].—A. I. M. E. Bull. Dec. 1916; p 2119; pp 25*; 35c.

Moore, E. S.—*Observations on the Geology of the Broken Hill Lode, New South Wales*. [A complete geologic description of the formation, ore deposits and nature of the ore, citing instances at particular mines].—Eco. Geol. June 1916; p 327; pp 22*; 60c.

Paige, Sidney.—*Silver City, New Mexico, Folio*. [Large separate maps of the quadrangle, with a geologic description of the formation and ore deposits].—U. S. G. S. Folio No. 199; pp 19*.

Ries, Heinrich.—*Economic Geology*. [A brief review is made regarding the industry and occurrence of each mineral, including metals and non-metals].—John Wiley & Son; book; pp 856*; \$4.

Spurr, J. E.—*The Relation of Ore-Deposition to Faulting*. [Sights various observations of this form of genesis of ore as noted in the field].—Eco. Geol. Nov. 1916; p 601; pp 22; 60c.

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CHAPTER V.

IRON AND STEEL.

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Paige, Sidney.—*Silver City, New Mexico, Folio*. [Large separate maps of the quadrangle, with a geologic description of the formation and ore deposits].—U. S. G. S. Folio No. 199; pp 19*.

Reifsnider, L. B.—*Underground Mining in Cuba*. [A method which does not interfere with operations above in surface mining. The stopes are filled after being worked out].—E. & M. J. Sept. 16 1916; p 509; pp 2½*; 25c.

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Tucker, W. B.—*Mines and Mineral Resources of Amador, Calaveras, Tuolumne*. [Economic mineral products are reviewed by separate descriptions of deposits and mines, with some information on the condition of the country].—Calif. Mg. Bur.; pp 180*.

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Bullens, Denison K.—*Steel and Its Heat Treatment*. [Omits intricate formulas and questionable theory].—Wiley & Sons; book; pp 431*; \$3.75.

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Stead, J. E.—*Notes on Nickel Steel Scale and on the Reduction of Solid Nickel and Copper Oxides by Solid Iron*. [Gives the method of procedure and results obtained in experimental work].—Iron & Steel Inst. Adv. Copy 7A; pp 9*; 50c.

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CHAPTER VI.

ALLOYS, ANTIMONY, MANGANESE, MOLYBDENUM, TUNGSTEN, ETC.

ALLOYS

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Testing Materials. Curves are shown and it is stated that a double heat treatment increases the resistance to alternating stresses].—*Iron Age* July 13 1916; p 80; pp 1¼*; 30c.

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companies are named, milling practice is described and a schedule of prices for tungsten ore is given].—E. & M. J. July 22 1916; p 165; pp 4¼*; 25c.

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[Three mines in the same district are described as regards their ore deposits. One is vanadium, one bismuth and the last silver].—E. & M. J. Sept. 30 1916; p 583; pp 4¼*; 25c.

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CHAPTER VII.

TIN, NICKEL, COBALT, ALUMINUM.

TIN

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Brooks, Alfred H.—*The Alaskan Mining Industry in 1915*. [Reviews the production and conditions in different districts, with information on coal and metal mining law].—U. S. G. S. Bull. 642-A; pp 71*.

Campbell, William.—*Recent Progress in Metallography*. [With some description the greater part is a bibliography of literature].—*Amer. Inst. of Metals Adv. Copy* 17; pp 63; 35c.

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Knopf, Adolph.—*Tin Ore in Northern Lander County, Nevada*. [The district is virgin and the mineralogy, geology and genesis of the ores are described].—U. S. G. S. Bull. 640-G; pp 14*.

Lamb, M. R.—*Amenities of Bolivian*

Mining. [A general review of the mining industry in the country which is for tin. The altitude is 13,000 ft.].—E. & M. J. July 8 1916; p 81; pp 3½*; 25c.

Matheson, A. M.—*Notes on the Chemical Assay of Tin Ores*. [Discussion of the chemical and fire assay of pyritic tin ores show that mill losses cannot be estimated by vanning and the fire method].—*Proc. Aus. Inst. M. E.* No. 21 1916; p 1; pp 7; 65c.; *Mg. World* Sept 9 1916; p 451; pp 2¾; 10c.; *Mg. & Engg. Rev.* June 5 1916; p 221; pp 2½; 35c.

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Miller, Benjamin L.; Singewald, Joseph T., Jr.—*The Huayni-Potosi Bismuth-Tin Mines in Bolivia*. [Other minerals occur, though these are the principal ones. Mining, milling and operations and conditions in the district in general are reviewed].—E. & M. J. Dec. 16 1916; p 1065; pp 3*; 25c.

Payne, F. W.—*Dredging for Minerals: Past and Present*. [From the Mining & Engineering Review, dealing with the operation of various dredging projects of both the past and present in New Zealand, Australia, and the Malay States].—*Mg. World* Dec. 16 1916; p 1029; pp 1½; 10c.

Reid, J. H.—*Sundown Tin and Copper Mine, Ballandean, Queensland, Australia*. [On the geology of the deposit, working of the mine and concentrating of the ores].—*Queen. Govt. Mg. Jnl.* June 15 1916; p 260; pp 1¾*; 35c.

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rence of the minerals].—Queen. Govt. Mg. Jnl. Aug. 15 1916; p 368; pp 1½*; 35c.

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—*Rooiberg Tin Dressing Plant*. [A reproduction of the plant's flowsheet].—S. Afr. Mg. Jnl. July 1 1916; p 309; pp 1*; 35c.

—*Tin Smelting Capacity of the World*. [Gives the possible production of tin from different companies' plants and from different districts].—Mg. Jnl. Sept. 23 1916; p 645; pp 1½; 35c.

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Coleman, A. P.—*Chief Minerals of the Sudbury Nickel Ores*. [The location and nature of the particular minerals found in the field].—Canadian Mg. Jnl. Aug. 15 1916; p 388; pp 1½; 35c.

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Blum, William.—*Determination of Aluminium as Oxide*. [A general review of methods is made and followed by a complete description of this method, with the results obtained by its use].—U. S. Bur. of Stand. Sci. Paper 286; pp 20*; 20c.

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Clark, W. W.—*The Manufacture and Use of Aluminous Vanadium*. [On the alloys of these two metals].—Trans. American Inst. of Metals Vol. IX; p 159; pp 8*; 35c.

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Pack, Charles.—*Aluminum Die Casting a Commercial Achievement*. [Detailed information on methods of casting aluminum].—Trans. American Inst. of Metals Vol. IX; p 144; pp 14*; 35c.

Pannell, Ernest V.—*Recent Developments in Aluminum*. [A number of recently found properties, both thermic and electrical].—Trans. American Inst. of Metals Vol. IX; pp 167; pp 27*; 35c.

Phalen, W. C.—*Bauxite and Aluminum in 1915*. [On the production, uses and methods of refining].—Min. Res. of U. S. I:7; pp 16*.

Pilgrim, Earl R.—*Flotation Tests on an Antimony Gold Ore*. [Tests conducted at the Washington College of Mines].—E. & M. J. Nov. 4 1916; p 820; pp ¾; 25c.

Sauveur, Albert.—*Detecting Alumina Inclusions in Steel*. [A microscopic investigation as to the occurrence and appearance of alumina particles].—Iron Age July 27 1916; p. 180; pp 2*; 30c. I. Tr. Rev. July 27; p 179; pp 2*; 25c.

Schirmeister, H.—*The Binary Alloys of Aluminum*. [The influence of the 20 most important metals on aluminum].—Stahl & Eisen 1916; No. 35; p 648, 873 and 996; \$1.05.

Sidener, C. F.; Pettijohn, Earl.—*Notes on the Determination of Aluminum*. [A discussion on the determination of aluminum as an oxide being precipitated with ammonium hydroxide].—Jnl. Ind. & Engg. Chem. Aug. 1916; p 714; pp 2; 60c.

Stone, G. S.—*Spelter: Its Grades and Uses*. [Tells of impurities, the amounts allowable in different grades and their effect on spelter's properties].—Mg. World Aug. 12 1916; p 287; pp 1½; 10c.

Strong, William.—*Electro-Metallurgical Uses of Surplus Power*. [On the possible uses to which the excess hydro-electric power of our western states might be put].—Jnl. Elect. Power & Gas July 15 1916; p 43; pp 3*; 35c.

—*Aluminum*. [On the production and conditions of the trade, with some information on the refining of the metal].—Engg. July 7 1916; p 9; pp 1; 35c.

CHAPTER VIII.

MISCELLANEOUS METALS AND ORES.

MERCURY

Bradley, W. W.—*Concentration Methods for the Reduction of Quicksilver Ores*. [Work now being carried on by the California Mining Bureau].—Mg. World Aug. 26 1916; p 366; pp $\frac{3}{4}$; 10c.

Broderick, T. M.—*Some Experiments Bearing on the Secondary Enrichment of Mercury Deposits*. [Deals mostly with the geochemistry of this process of genesis].—Eco. Geol. Nov. 1916; p 645; pp 7; 60c.

Brown, G. Chester.—*Mines and Mineral Resources of Shasta, Siskiyou and Trinity Counties, California*. [Copper and gold are the principal minerals, though many others occur in the district].—Calif. g. Bur.; pp 192*.

Eakin, H. M.; Mertie, J. B.; Harrington, G. L.—*The Cosna-Nowitna and Ruby-Kuskokwim Regions, Alaska*. [The geology, geography and mineral resources of the country are first reviewed and followed by separate descriptions of the districts].—U. S. G. S. Bull. 642-H; pp 56*.

Jimenez, Carlos P.—*Estadística Minera en 1914, Peru*. [Mineral statistics of Peru in 1914].—Cuerpo de Ingenieros de Minas Boletín No. 82; pp 150*.

Landers, W. H.—*The Smelting of Mercury Ores*. [Speaks of the general thermic methods now in common use and mentions the open field here for hydrometallurgical methods and investigation].—E. & M. J. Oct. 7 1916; p 690; pp 5*; 25c.

McCaskey, H. D.—*Quicksilver in 1915*. [Report by states and the United States on the production of the metal and market conditions].—Min. Res. of U. S. I:11; pp 19.

McLaughlin, R. P.; Bradley, Walter C.; Brown, G. Chester; Lowell, F. L.—*Mines and Mineral Resources of Fresno, Kern, Kings, Madera, Mariposa, Merced, San Joaquin and Stanislaus Counties, California*. [Operations are included in separately, describing mines, plants and unworked deposits].—Calif. Mg. Bur.; pp 220*.

Mudd, S. W.—*Mining and Metallurgical Progress in the Southwest*. [Address delivered before the Chamber of Mines and Oil, Los Angeles, being on the production of ores and metals].—Mg. World July 1 1916; p 11; pp 2; 10c.

— *California Mineral Production*.

—E. & M. J. Dec. 2 1916; p 971; pp $1\frac{1}{2}$; 25c.

— *Chinese Mineral Industry in 1915*. [A review of the production of refined metals].—July 8 1916; p 477; $\frac{3}{4}$; 35c.

— *Oceanic Quicksilver Mill, California*. [An account of equipment and operations].—E. & M. J. Sept. 16 1916; p 512; pp 1*; 25c.

— *Six Months of Wonderful Prosperity for United States Mining*. [Reviews the first half of the year's production].—Mg. World Aug. 5 1916; p 29; pp $8\frac{1}{4}$ *; 10c.

RADIUM AND RADIOACTIVES

Leaming, T. H.; Schlundt, Herman; Underwood, Julius.—*Comparison of the Ionization Currents Due to Equal Quantities of Radium Emanation in Different Types of Electroscopes*. [A method by which small quantities of radium may be determined].—American Electrochem. Soc. Adv. Paper 2; p 13; pp 14; 35c.

Loomis, Albert G.; Schlundt, Herman.—*Some Experiments on the Concentration of Radium in Carnotite Ores*. [A general description of processes with details].—Jnl. Ind. & Engg. Chem. Nov. 1916; p 990; pp 6; 60c.

THORIUM

Thornton, W. M., Jr.—*The Separation of Thorium from Iron with the Aid of the Ammonium Salt of Nitrosophenylhydroxylamine*.—American Jnl. of Sci. Aug. 1916; p 151; pp 4*; 60c.

MISCELLANEOUS ORES AND METALS (Unclassified)

Blackwelder, Eliot.—*The Geologic Role of Phosphorus*. [Treats on the action of phosphorus in solution with respect to the formation of minerals and other substances in a general way].—American Jnl. of Sci. Oct. 1916; p 285; pp 14*; 60c.

Browning, P. E.; Simpson, G. S.; Porter, L. E.—*On the Qualitative Separation and Detection of Tellurium and Arsenic, Iron and Thallium, and Zirconium and Titanium*. [Details of procedure for this

chemical method are given].—American Jnl. of Sci. Aug. 1916; p 106; pp 3; 60c.

Browning, P. E.; Spencer, S. R.—*On the Separation of Caesium and Rubidium by the Fractional Crystallization of the Aluminum and Iron Alums and Its Application to the Extraction of These Elements from Their Mineral Sources*.—American Jnl. of Sci. Sept. 1916; p 2½; 35c.

Dunlop, J. P.—*Secondary Metals in 1915*. [On the production of metals refined from scrap].—Min. Res. U. S. I:3; pp 8.

Hess, Frank L.—*Magnesium in 1915*. [Though production figures are given the greater part is on the manufacture, prices, uses, history of the method of manufacture, imports and exports].—Min. Res. U. S. I:23; pp 7.

Hill, James M.—*Barytes and Strontium in 1915*. [Reviews by states and inclusion of a map showing location of deposits].—Min. Res. of U. S. II:15; pp 27.

Irvin, Donald F.—*Strontium Nitrate: A New Industry*. [A flow sheet used for the refining of celestite to this product is given, besides a general review of the industry].—M. & S. P. Nov. 25 1916; p 774; pp 2¾*; 20c.

Johnson, J. E., Jr.—*The Chemical and Physical Properties of Foundry Irons*. [The effects of several different elements on iron are treated separately].—Met. & Chem. Engg. Nov. 15 1916; p 588; pp 8*; 35c.

Richards, J. W.—*The Metallurgy of the Rarer Metals*. [Abst. from a paper read before the American Inst. of Chem. Eng. Discussing the importance of the future of magnesium, chromium and other metals].—Mg. World July 15 1916; p 93; pp 1¼; 10c.

Stead, J. E.—*Influence of Some Elements on the Mechanical Properties of Steel*. [Gives the results of tests made on steels containing small amounts of other metals as copper, tin, silicon, phosphorus, sulphur, etc.].—Iron & Steel Inst. Adv. Copy; pp 91*; 50c; I. & C. Tr. Rev. Sept. 22 1916; p. 350; pp 2½*; 35c.

Turner, W. A.—*The Separation of Vanadium from Phosphoric and Arsenic Acid and from Uranium*. [A description of a chemical method].—American Jnl. of Sci. Aug. 1916; p 109; pp 2; 60c.

Uhler, Horace S.; Browning, Philip E.—*On the Electrolysis and Purification of Gallium*. [Details of procedure are given].—Amer. Jnl. of Sci. Nov. 1916; p 389; pp 10*; 60c.

Wells, Arthur E.—*Laboratory Investigations Concerning the Reduction of Barium Sulphate to Barium Sulphide*. [Published by permission of the Bureau of Mines. Details of methods used in the investigation are given, with results obtained].—Jnl. Ind. & Engg. Chem. Sept. 1916; p 770; pp 7½*; 60c.

—*Great Britain, Special Reports on the Mineral Resources of*.—Geol. Surv. of England. Vols. III, IV, V; \$1.

NON-METALS.

CHAPTER IX.

FUELS AND BY-PRODUCTS.

COAL

Coal Fields and Mining

Atkinson, H. J.—*Widening of the Up-cast Shaft at Tinsley Park Colliery, England*. [A paper read before the Midland Inst. of Mg., Civil and Mech. Eng.].—I. & C. Tr. Rev. Oct. 6 1916; p 424; pp 1½*. 35c. Coll'y Guard Oct. 6; p 651; pp 1*; 35c.

Blakeley, A. G.—*Chemistry in Coal Mining*. [Some details and speaks of lines along which the coal mine chemist could work].—Coal Age Aug. 19 1916; p 296; pp 6½; 20c.

Boulton, W. S.—*Study of Concealed Coal Beds*. [The presidential address to the British Assn. for the Advancement of Sci.].—Coal Tr. Bull. Nov. 1 1916; p 43; pp 4½; 25c.

Brennan, Thomas.—*Good Results Obtained in the Pittsburgh Seam*. [A system of room and pillar mining in western Pennsylvania. Points on track laying and mining costs are also given].—Coal Age Dec. 23 1916; p 1038; pp 2; 20c.

Brooks, Alfred H.—*The Alaskan Mining Industry in 1915*. [Reviews the production and conditions in different districts with information on coal and metal mining law].—U. S. G. S. Bull. 642-A; pp 71*.

Cady, Gilbert H.—*Coal Resources of District VI, Illinois*. [Describes the coals and formation of the district].—Ills. Geol. Surv. Bull. 15; pp 94*.

Cameron, W. E.—*The Ipswich Coal Field, Queensland*.—Queen. Govt. Mg. Jul. Aug. 15 1916; p 371; pp 1*; 35c.

Campbell, F. W.—*Working Over an Old Mine*. [A system being used by the Nay Aug Coal Co., Dunmore, Pa., by which it is mining ground mined and partially robbed already].—Coal Age Dec. 2 1916; p 924; pp 1¾*; 20c.

Crankshaw, H. M.—*Mining and Ventilation Methods in Thick Pitching Beds*. [A paper to be read at the A. I. M. E. Arizona meeting].—Coal Tr. Bull. Aug. 15 1916; p 23; pp 5*; 25c.

Crankshaw, H. M.—*Methods of Mining in the Anthracite Field*. [Deals with

methods of timbering and running haulage and gangway, etc.].—Coal Age Oct. 7 1916; p 570; pp 5¾*; 20c.

Crankshaw, H. M.—*Methods of Mining in the Anthracite Field*. [Details in description and drawings show the methods used in mining operations].—Coal Age Sept. 23 1916; p 490; pp 3½*; 20c.

Crankshaw, H. M.—*Methods of Mining in the Anthracite Field*. [The formation here is more thin and more nearly flat than in the other fields and mining machines and slushing here find a better application].—Coal Age Sept. 30 1916; p 530; pp 4*; 20c.

Crankshaw, H. M.—*Mining Methods Employed in the Anthracite Field*. [A description of the stratigraphy and details of methods of underground operation and mining].—Coal Age Sept. 16 1916; p 452; pp 4*; 20c.

Crankshaw, H. M.—*Modern Methods of Mining and Ventilating Thick Pitching Beds*. [Confined to coal deposits. Details and drawings of the methods are shown].—Bull. A. I. M. E. July 1916; p 1159; pp 11*; 35c.

Crawford, C. W.—*The Calamity Trail—Mine Pumps*. [A discussion of faulty and correct installations and operations].—Coal Age Aug. 12 1916; p 266; pp 1½; 20c.

Davies, R. S.—*Hydraulic Packing at Ballarpur Colliery, India*. [Costs and details of operation are given].—Trans. Mg. & Geol. Inst. of India; Sept. 1916; p 53; pp 10; \$1.25; Coll'y Guard. Nov. 3 1916; p 856; pp 1*; 35c.

DeWolfe, E. C.—*A modern Coal Mining Organization in Illinois*. [From Electrical Mining. The equipment, operation and methods of managing at the Madison Coal Corporation's mines are reviewed].—C. Tr. Bull. Aug. 1 1916; p 43; pp 8*; 25c.

Dominian Leon.—*Fuel in Turkey*. [Coal and petroleum are reviewed separately by the places in which they occur. The production, location and nature of the deposits are given].—Bull. A. I. M. E. June 1916; p 1011; pp 20*; 35c.

Frood, G. E. B.—*South African Mining in 1915*. [Deals entirely with coal mining, production, accidents, timbering,

sanitation and stone dusting].—Coll'y Guard. Nov. 10 1916; p 905; pp 1; 35c.

Futers, T. Campbell.—*The Mechanical Equipment of Cwm Colliery, Llantwit Fardre, South Wales*. [The hoist, shaft, steam and electric equipment at the mines are described].—Coll'y Guard. Dec. 1 1916; p 1055; pp 3*; 35c.

Heal, C.—*Colliery Pumping Plants*. [A paper read before the National Assn. of Colliery Managers, England].—I. & C. Tr. Rev. Aug. 18 1916; p 194; pp 1; 35c.

Hopwood, William.—*Mining and Dealing with Mine Water in the Mold Coal-field, England*. [A paper read before the National Assn. of Eng., England].—I. & C. Tr. Rev. Aug. 4 1916; p 127; pp 1½*; 35c.

Hopwood, William.—*Some Personal Experiences of Coal Mining in North Borneo*. [A paper read before the National Assn. of Colliery Mgrs. The methods of mining, prospects for this undeveloped field and geography of the country are among things reviewed].—I. & C. Tr. Rev. Nov. 10 1916; p 574; pp 2*; 35c.

Jackson, C.—*Rock Excavation in Coal Mines*. [Five types of drills are described, including electric and compressed air drills, the latter getting its air from a portable electrically driven compressor].—Coal Age July 1 1916; p 32; pp 2¼*; 20c.

Leshner, C. E.—*Coal in 1915*. [Reviews of each producing state are made as regards operations and productions, besides a general review of conditions affecting the coal industry in the United States].—Min. Res. U. S. II:24; pp 87.

Lowell, F. L.—*Mines and Mineral Resources of Del Norte, Humboldt and Mendocino Counties, California*. [Reviews operations in detail, locates separate deposits and describes them].—Calif. Mg. Bur.; pp 59*.

Lupton, Arnold.—*Coal Resources of the United Kingdom*. [A paper read before the South Wales Inst. of Eng.].—I. & C. Tr. Rev. July 28 1916; p 95; pp 2; 35c.

McGrath, J. W.—*Newfoundland Coal Deposits*. [A review of the deposits now being held as reserves and those being operated].—Canadian Mg. Jnl. Sept. 15 1916; p 439; pp 2½; 35c.

Nelson, W. A.—*The Tennessee Coal Field South of the Tennessee Central Railroad*. [Describes the geology, mining and nature of the coals in general for the entire area and separately for the different districts].—Res. of Tenn. July 1916; p 155; pp 29*.

Peltier, M. F.—*Coal Mining in North-*

ern Wyoming. [Briefs on operations of several companies, the coal deposits and grades and methods used in mining].—Coal Age Nov. 18 1916; p 832; pp 2¼*; 20c.

Reed, Frank.—*Coal Mining Under the River Waikato and Lake Hakamoa, New Zealand*. [Abst. from the annual report of the government].—Coll'y Guard. Sept. 1 1916; p 399; pp 2½*; 35c.

Sampson, R. J.—*An Economical System of Mining*. [The system allows of complete extraction of the ground at a low cost and consists mostly of pillar drawing. A tenacious sandstone roof permits the running of wide entries].—Coal Age Sept. 23 1916; p 494; pp 2¼*; 20c.

Sayre, Edward A.—*Shaft Sinking Through Soft Material*. [Costs and methods of operation at an Iowa coal mine].—Bull. A. I. M. E. Sept. 1916; p 1523; pp 8*; 35c.

Sherwin, P. M.—*The Bituminous Coal Mines of Crow's Nest Pass, British Columbia*. [A general description of the various mines, their geological formation and operation].—Coal Age Dec. 23 1916; p 1034; pp 3½*; 20c.

Shumway, Ralph W.—*The Coal Industry of Colorado*. [A general review of the industry in Colorado and the coal production].—Colo. School of Mines Qt'ly April 1916; p 26; pp 7; 35c.

Simpson, F. L. G.—*A Description of the Method of Working Out the Pillars at the Mohpami Mines, India, by Means of Packing and a Comparison of the Dry and Wet Systems of Packing*. [Seven methods are herein described].—Trans. Mg. & Geol. Inst. of India Oct. 1916; p 29; pp 20*; \$1.

Smith, Watson.—*Early and Modern Coal Mining Methods in Japan*. [From the Jnl. of the Royal Soc. of Arts, being a brief general description of the mines in the country].—C. Tr. Bull. Oct. 2 1916; p 43; pp 1½; 25c.

Ting, V. K.—*The Coal Resources of China*. [A general review of the country as regards coal deposits].—Far East. Rev. June 1916; p 1; pp 4*; 35c.

Watts, A. C.—*Coal Mining Methods in Utah*. [Treats on the nature of the coals and peculiar geological features of the formation which control the methods of mining].—Coal Age Aug. 5 1916; p 214; pp 5¼*; Aug. 12 1916; p 258; pp 5*; 40c.

Webb, W. B.—*The Elkhorn Coal Co.'s Plant, Kona, Kentucky*. [A brief description of development in eastern Kentucky].—Coal Age Aug. 12 1916; p 264; pp 1½*; 20c.

——— *Carriden Coal Co.'s New Pits,*

England. [Describes the formation and methods and equipment used in sinking its No. 1 and 2 shafts].—Coll'y Guard. Sept. 15 1916; p 497; pp 1¼*; 35c.

— *Coal Mining in South Africa.* [Deals with the possibilities of further development].—S. Afr. Engg. Sept. 1916; p 45; pp 1¼*; 35c.

— *Mechanical Equipment at Point-No-Point.* [Details of coal, water and steam handling at the Essex plant of the Public Service Electric Co., New Jersey].—Pract. Eng. Sept. 15 1916; p 771; pp 15¼*; 20c.

Transport, Haulage, Conveying, Etc.

Barnett, V. H.—*Geology of the Hound Creek District of the Great Falls Coal Field, Cascade County, Montana.* [Geologic maps and description of the formation are given].—U. S. G. S. Bull. 641-H; pp 17*.

Cantrill, T. C.; Dixon, E. E. L.; Thomas, H. H.; Jones, O. T.—*Geology of the South Wales Coal Field.* [Particularly the field around Milford].—Geol. Surv. of Eng. and Wales; Memoir; His Majesty's Stationery Office, London; \$1.

Clapp, Charles H.—*Geology of the Nanaimo Map-Area.* [The area is on Vancouver island, British Columbia. Coal is the main product, though sand and gravel, clay and stone are also produced].—Canada Geol. Surv. Memoir 51; pp 135*.

Crider, A. F.—*The Coals of Letcher County, Kentucky.* [Geology is taken up in detail and the different coal beds are described separately].—Kentucky Geol. Surv. Vol. VI; Ser. VI; pp 234.

Fearnside, W. G.—*The Coal Seams of South Yorkshire.* [A paper read before the Sheffield Soc. of Eng.].—Coll'y Guard. Oct. 20 1916; p 749; pp 1¼*; 35c.

Ferguson, David.—*Form and Structure of the Coal Fields of Scotland.* [A paper read before the Inst. of Mg. Eng., England].—Coll'y Guard, Sept. 22 1916; p 545; pp 1¼*; 35c.

Ferguson, David.—*The Coal Fields of Scotland.* [A paper read before the Inst. of Mg. Eng., Scotland. The geology and nature of the deposits are described].—Coal Tr. Bull. Nov. 15 1916; p 47; pp 3¼; 25c.

Glenn, L. C.—*The General Features of the Tennessee Coal Field North of the Tennessee Central Railroad.* [A review of the geology of the formation, coals and mining operations in the area].—Res. of Tenn. July 1916; p 127; pp 28*.

Hinds, Henry.—*The Coal Resources of*

the Clintwood and Bucu Quadrangles, Virginia. [A complete description of each bed in the area is given, with a general geologic description of the area as a whole].—Va. Geol. Surv. Bull. XIII; pp 206*.

Kay, Fred H.; White, K. D.—*Coal Resources of District VIII, Illinois.* [Detailed description of the deposits and formation surrounding Danville].—State Geol. Survey Bull. 14; pp 68*.

Lee, Wallace.—*Geology of the Kentucky Part of the Shawneetown Quadrangle.* [The economic deposits are composed of coal, oil, lead, zinc and clay].—Kentucky Geol. Surv.; pp 73.

Loftus, N.—*New Theory for Coal Formation.* [Says that coal was formed from the decomposition of carbon dioxide, which gas was near the earth's surface before mountains were made].—Coal Tr. Bull. Sept. 15 1916; p 41; pp 1½; 25c.

Lupton, Charles T.—*Geology and Coal Resources of Castle Valley in Carbon, Emery and Sevier Counties, Utah.*—U. S. G. S. Bull. 628; pp 88*; 30c.

Nelson, W. A.—*The Tennessee Coal Field South of the Tennessee Central Railroad.* [Describes the geology, mining and nature of the coals in general for the entire area and separately for the different districts].—Res. of Tenn. July 1916; p 155; pp 29*.

Ries, Heinrich.—*Economic Geology.* [Fourth edition, revised and enlarged].—Wiley & Sons; book; pp 856*; \$4.

Sherwin, P. M.—*The Bituminous Coal Mines of Crow's Nest Pass, British Columbia.* [A general description of the various mines, their geological formation and operation].—Coal Age Dec. 23 1916; p 1034; pp 3½*; 20c.

Staples, Ernest H.—*Some Effects of the Master Folds on the Structure of the Bristol and Somerset Coalfields, England.* [A paper read before the Manchester Geol. & Mg. Soc.].—I. & C. Tr. Rev. Oct. 13 1916; p 1; Coll'y Guard. Oct. 13; p 699; pp 1¼; 35c.

Watts, A. C.—*Coal Mining Methods in Utah.* [Treats on the nature of the coals and peculiar geological features of the formation which control the methods of mining].—Coal Age Aug. 5 1916; p 214; pp 5¼*; Aug. 12 1916; p 258; pp 5*; 40c.

Preparation, Handling, Marketing, Etc.

Cady, Gilbert H.—*Coal Resources of District VI, Illinois.* [Describes the coals and formation of the district].—Ills. Geol. Surv. Bull. 15; pp 94*.

Crankshaw, H. M.—*Methods of Mining*

in the *Anthracite Field*. [Deals with methods of timbering and running haulage and gangway, etc.].—Coal Age Oct. 7 1916; p 570; pp 534*; 20c.

Edsall, H. J.—*Some Modern Coal Tipples*. [Discusses the designs of tipples and proper equipment to be used therein].—Coal Age July 1 1916; p 4; pp 4*; 20c.

Green, R.—*Horse Haulage vs. Compressed Air Haulage at Collieries*. [In discussing the subject a comparison of actual costs is made].—Canadian Mg. Inst. Bull. Aug. 1916; p 711; pp 6; 35c.

Husband, R. H.—*Practical Notes on the Various Systems of Underground Haulage Applicable to Indian Mines*.—Trans. Mg. & Geol. Inst. of India Sept. 1916; p 63; pp 14; \$1.25.

Painter, Walter.—*Virginia Power Co. Coal and Ash Tower*. [Describes a tower arrangement for the handling of coal and ashes].—Pract. Eng. Dec. 1 1916; p 985; pp 1*; 20c.

Pleschner, O. J.—*Design for Auxiliary Shaft*. [This auxiliary hoist shaft does away with the necessity of detouring the air from the shaft around the passages leading to the other shaft compartments].—Coal Age Dec. 2 1916; p 915; pp 1½*; 20c.

Warden-Stevens, F. J.—*Coal Shipping and Bunkering in Australia*.—Coll'y Guard. July 21 1916; p 109; pp 2½*; 35c.

Warden-Stevens, F. J.—*Coal Shipping from South Africa*. [Describes several shipping appliances and arrangements].—Coll'y Guard. June. 30 1916; p 1229; pp 2½*; 35c.

Warden-Stevens, F. J.—*Coal and Shipping*. [A description and line drawings of the plant for coaling vessels at the Panama canal].—Coll'y Guard. Nov. 10 1916; p 899; pp 2½*; 35c.

Wilson, E. B.—*Slope Haulage in Alabama*. [Describes a slope haulage-way with varying grade over a mile long. It has handled the record coal output of the state].—Coal Age Aug. 5 1916; p 220; pp 2*; 20c.

—*American Coal Mine Haulage*. [Describes the practice in detail].—Coll'y Guard. July 14 1916; p 61; pp 2½*; 35c.

—*Coal Storage Plant on the Monongahela Innovation for River Operators that Is Arousing Keen Interest*. [A description of the storage plant is given].—Coal Tr. Bull. Sept. 15 1916; p 35; pp 1½; 25c.

—*Koepe Winding at Plennmeller Colliery, England*.—I. & C. Tr. Rev. July 21 1916; p 65; pp 3*; 35c.

—*Rapid Gain in Coal Movements Over Heaviest Railroads*. [Abst. from a U. S. Dept. of Commerce report].—Coal Tr. Rev. Aug. 15 1916; p 44; pp 2; 25c.

Mechanical Cutters

Allen, Andrew.—*Bituminous Coal Preparation*. [A paper read before the Kentucky Mg. Inst.].—Coal Tr. Rev. July 15 1916; p 43; pp 4½; 25c.

Allen, Andrew.—*The Preparation of Bituminous Coal*. [A paper read before the Kentucky Mg. Inst.].—Coal Age July 1 1916; p 9; pp 5½*; 20c.

Burroughs, William G.—*A Concrete Tipple in Ohio*. [A tipple for handling a moderate production, built by the Black Diamond Coal Co.].—Coal Age Nov. 25 1916; p 872; pp 1½*; 20c.

Davenport, Frank B.—*The History of a Successful Jig*. [Drawings and description are given].—Coal Age Sept. 23 1916; p 497; pp 1½*; 20c.

Edsall, Henry J.—*American Coal Tipples*. [A description of the Warrior Coal Co.'s plant in West Virginia].—Coll'y Guard. Nov. 24 1916; p 1005; pp 2*; 35c.

Edsall, H. J.—*Some Modern Coal Tipples*. [Discusses the design of tipples and proper equipment to be used therein].—Coal Age July 1 1916; p 4; pp 4*; 20c.

Fear, Thomas G.—*Getting Clean Coal*. [A paper read before the Alabama Coal Operators' Assn. It states that the human factor, methods of mining and dockage have considerable to do with the question].—Coal Age Sept. 30 1916; p 541; pp 1½; 20c.

Geismer, H. S.—*Revolving Dumps at Coal Mines*. [On the use and description of various installations of this type].—Coal Age Aug. 5 1916; p 224; pp 1½*; 20c.

Hanlin, J. G.—*Flat Top Coal-Washing Plant*. [It is claimed that the washing reduces the ash content 8%. There are 5 primary jigs and 1 rewashing jig handling a total of 1600 tons per day].—Coal Age Nov. 18 1916; p 841; pp 2½*; 20c.

Holbrook, E. A.—*Dry Preparation of Bituminous Coal at Illinois Mines*. [The nature of the coal and the deposits are described. Drawings of tipples and plants are shown and a complete description of methods used in preparing coal is given].—Univ. Ill. Bull. 43; pp 133*.

Machin, W. A.—*The Jigging Conveyor Underground and Methods of Working*. [A paper read before the National Assn. of Colliery Mgrs., England. Several types are described and drawings shown].—I. &

C. Tr. Rev. Nov. 3 1916; p 539; pp 4*; 35c.

Miller, Benjamin L.; Singewald, J. T. Jr.—*Exploitation of Chilean Mines*. [Treats on the industries from an economic and industrial standpoint].—E. & M. J. Aug. 12 1916; p 289; pp 4½*; 25c.

Mullen, Patrick.—*New Methods for Mining Bituminous Coal*. [Short-wall mining machines are used for extracting rib coal by the H. C. Frick Coke Co.].—Coal Tr. Bull. Nov. 15 1916; p 43; pp 2; 25c.

Mullen, Patrick.—*New Mining Method in the Connellsville Region*. [A paper read before the Engineers' Soc. of Western Pennsylvania].—Coal Age Oct. 28 1916; p 700; pp 2¼*; 20c.

Parodi, Lorenzo.—*Ricordi e Note Sulla Metallurgia Italiana*. [A record of the metallurgical production of metals in Italy during 1914 and 1915].—Metallurgia Ital. April 30 1916; p 260; pp 15; \$1.

Raymond, M.—*New Tipple at Gloucester, Ohio*. [Drawings, illustrations and detailed description are given].—Coal Age July 1 1916; p 30; pp 2*; 20c.

Schiefer, H. V.—*An Automatic Tipple Near Houtzdale, Pa.* [Two men handle the tipple with a capacity of 2500 tons per day, and they handle 8 cars per minute. Line drawings and description of the tipple are given].—Coal Age Dec. 23 1916; p 1040; pp 4*; 20c.

Walker, Sydney F.—*Coal-Face Conveyors Employed in the United Kingdom*. [Describes two styles of conveyors of this type for use in handling coal from the face in thin beds].—Coal Age Nov. 4 1916; p 744; pp 4½*; Nov. 11 1916; p 790; pp 4½; 70c.

Warden-Stevens, F. J.—*Coal Shipping and Bunkering in Australia*.—Coll'y Guard. July 21 1916; p 109; pp 2½*; 35c.

Warden-Stevens, F. J.—*Coaling at the Panama Canal*. [Describes coaling docks and methods of operation there].—Coll'y. Guard. Oct. 20 1916; p 745; pp 3*; 35c.

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—*"British Baum" Coal Washing Plant*. [Sectional and plan drawings].—Coll'y Guard. July 28 1916; p 161; pp 2*; 35c.

—*Coal Exports and Bunker Shipments in 1914 and 1915 in the United Kingdom*. [Parliamentary report showing the amount of coal shipped from each

United Kingdom port to each foreign port].—I. & C. Tr. Rev. July 21 1916; p 74; pp 2; 35c.

—*Coal Handling on the Norfolk & Western Railway*. [A brief description of the coal handling facilities and methods used by this road].—Coal Age Sept. 23 1916; p 498; pp 1½; 20c.

—*Coal Miners' Pocketbook*. [Gives rules, principles, formulas and tables].—McGraw-Hill Co.; book; pp 1172*; \$4.

—*Coal Washer, A New Belgian*. [Gives a complete description of the washer and drawings showing its construction and operation in a plant].—Coll'y Guard. Nov. 3 1916; p 851; pp 2*; 35c.

—*Equipment of the Valleyford Colliery*. [Gives drawings and description of the steam-turbo and electric plants besides a description of the coal washing plant and fan and boiler house].—Coll'y. Guard. Nov. 17 1916; p 951; pp 2½*; 35c.

—*Mechanical Coal Stage at Dairy-coates, England*. [Drawings and description of the structure are given].—Coll'y Guard. Sept. 22 1916; p 546; pp 1½*; 35c.

—*New Coal Washery, Coke Ovens and By-Product Plant at Risca Colliery, England*. [Contains a supplement sheet with line drawings and views of the plant].—I. & C. Tr. Rev. Dec. 1 1916; p 663; pp 5*; 35c.

—*Smokeless Fuel, Gas, Oil and Ammonia Production*. [A description of equipment used and some details on the methods of operation].—I. & C. Tr. Rev. July 7 1916; p 10; pp 2*; 35c.

—*Surface Plant at Brodsworth Main Colliery, England*. [Turbines using mixed pressure steam are used. Hoist, boilers, compressed air, etc., are described].—Coll'y Guard. Sept. 1 1916; p 401; pp 1½*; 35c.

Power General

Collins, V. B.—*Coal-Cutting by Machinery in the Newcastle and Maitland Districts, N. S. W.* [Machines operated by electricity and compressed air are described and discussed].—Northern Engg. Inst. of N. S. W. April Proc.; p 25; pp 30*; 50c.

Mullen, Patrick. — *New Methods for Mining Bituminous Coal*. [Short-wall mining machines are used for extracting rib coal by the H. C. Frick Coke Co.].—Coal Tr. Bull. Nov. 15 1916; p 43; pp 2; 25c.

Electricity in Coal Mining

Brown, J. F. K.—*Imagination Applied to Mining*. [A review of the possible future as regards the transmission of electric power, pumping, etc. The cases are purely hypothetical].—*Coal Age* July 22 1916; p 142; pp 2½; 20c.

Cooper, S. G.—*The Production and Use of Power and Its Relation to Fuel Economy*.—I. & C. Tr. Rev. Aug. 4 1916; p 125; pp 1; 35c.

Hines, Richard P.—*Natural Gas Operating Coal Mines*. [Speaks of a central gas power station of the Consolidated Coal Co., W. V., and the distribution of the electricity from this station to the mines].—*C. Tr. Bull.* Oct. 2 1916; p 34; pp 1¾; 25c.

Symons, S. W.—*Compressed-Air Coal Cutters in Canadian Mines*. [The drill is somewhat similar to the ordinary post rock drill].—*Coal Age* July 1 1916; p 28; pp 1¼*; 20c.

—*Coedely Colliery, England*. [Describes the power plant and general surface equipment, with some details].—*I. Tr. Rev.* Dec. 8 1916; p 693; pp 3*; 35c.

Explosives, Blasting

Futers, T. Campbell.—*The Mechanical Equipment of Cwm Colliery, Llantwit Fardre, South Wales*. [The hoist, shaft, steam and electric equipment at the mines are described].—*Coll'y Guard.* Dec. 1 1916; p 1055; pp 3*; 35c.

Warren, H. M.—*Electrical Distribution and Application in Mines*. [On the fastening and placing of cables underground in coal mines].—*Coal Age* July 15 1916; p 98; pp 5¼*; 20c.

—*Electric Winding in South Yorkshire Collieries, England*.—*Coll'y Guard.* Aug. 18 1916; p 301; pp 1½*; 35c.

Explosions—Mine Fires, Gases, Coal Dust, Fire Damp, Etc.

—*The Use of Squibs Vs. Fuses*. [The results of a thorough study made by the British Government bringing out that in general squibs are the safest and best].—*Coal Age* Sept. 23 1916; p 501; pp 1½; 20c.

Safety, Rescue, First Aid, Sanitation

Ashworth, James.—*The Composition of Natural Gas*. [Discussion on coal mine gases].—*Coal Age* July 22 1916; p 146; pp 1¼; 20c.

Blatchford, A. S.—*The Influence of Incombustible Substances on Coal-Dust*

Explosions.—*Trans. N. Eng. Inst. Mg. & Mech. Eng.* No. 46; 1916; p 235; pp 17.

Bradley, Walter W.—*Mines and Mineral Resources of Colusa, Glenn, Lake, Marin, Napa, Solano, Sonoma, and Yolo Counties, California*. [Separate descriptions of mines, deposits and operations of mines and plants].—*Calif. Mg. Bur.*; pp 208*.

Brooks, Alfred H.—*Mineral Resources of Alaska*. [Descriptions of mines and deposits, reviewing their production, geology and geography. The coal mining lease laws are also spoken of].—*U. S. G. S. Bull.* 642; pp 279*.

Budge, G. D.—*Stone Dusting in Steam Coal Collieries*. [A paper read before the South Wales Inst. of Eng.].—*Coll'y Guard.* Sept. 22 1916; p 548; pp 2½*; 35c.

Burrell, G. A.; Seibert, F. M.—*Gas Analysis as an Aid in Fighting Mine Fires*. [Discusses the change in air during a mine fire and the effects of gas on the fire and its origin. Methods of sampling and analyzing are given].—*U. S. Bur. of Mines Tech. Paper* 13; pp 16*.

Geismer, H. S.—*Explosion at the Bessie Mine, Alabama*. [Thirty men are believed to have been killed in the explosion in a mine of the Sloss-Sheffield Steel & Iron Co.].—*Coal Age* Nov. 18 1916; p 835; pp 2¾*; 20c.

Graham, J. Ivon.—*The Occlusion of Gases by Coal*. [A paper read before the Institution of Mining Engineers, dealing with the permeability of coal, with respect to gases, etc.].—*Coll'y Guard*, Sept. 15 1916; p 513; pp 1. I. & C. Tr. Rev. Sept. 15; p 308; pp 1; 35c.

Graham, Thomas.—*Gaseous Mines in the Crow's Nest Pass Coal Field, British Columbia*. [A paper read before the Mine Inspector's Inst. in which considerable is said of the mines of the district and methods of sampling the air].—*Coal Age* Dec. 2 1916; p 920; pp 3¼*; 20c.

Haas, Frank.—*Mine Explosions*. [The better known safeguards against dust explosions are spoken of and the possible weak points of each brought out].—*Coal Age* Sept. 9 1916; p 418; pp 3¼; 20c.

Hood, W. W.; Knox, G.; Evans, E. C.—*South Wales Coal Dust Experiments*. [A paper read before the South Wales Colliery Officials' Assn.].—*Coll'y Guard.* Aug. 11 1916; p 256; pp 1½*; 35c.

Krebs, Charles E.; Teets, D. D., Jr.; White, I. C.—*County Reports of Raleigh and the Western Portions of Mercer and Summers Counties, West Virginia*. [An account of the geology, mineral deposits and operations].—*W. Va. Geol. Surv. Report*; pp 778*.

Norris, R. V.—*Coal-Mine Fires*. [Discusses ways for the prevention of the same].—*Coal Age* Oct. 21 1916; p 666; pp 6*; 20c.

Pellegrino, John.—*Quenching a Mine Fire in a Kansas Mine with Chemicals*.—*Coal Age* Aug. 26 1916; p 303; pp 1¼*; 20c.

Powell, J. W.—*The Season of Explosions*. [Treats on the danger of winter as a time when most mine explosions occur].—*Coal Age* Sept. 16 1916; p 458; pp 2¼; 20c.

Shaw, Wm.—*Coal Dust, How It Affects the Mines in Crowsnest Pass*. [Speaks of the peculiarities of coal dust in this mine and methods employed to cope with it].—*Bull. Canadian Mg. Inst.* July 1916; p 647; pp 8; 35c.

Tompkins, Norton.—*Explosive Gas in Coal Mines*. [Information gained while studying evidence in regard to Bath thermal springs].—*Coal Tr. Bull.* Sept. 15 1916; p 48; pp 3; 25c.

Tompkins, Norton.—*Explosive Gas in Coal Mines*. [On its source and origin].—*Coll'y Guard*, Aug. 18 1916; p 302; pp 1*; 35c.

Weber, Heinrich.—*Die Schlagwetter-explosion auf dem Steinkohlenbergwerk Minister Achenbach I/II bei Dortmund am 30 Januar, 1914*. [A heavy explosion at the Minister Achenbach I/II mine near Dortmund, Germany].—*Zts. Berg, Hütten & Salinenw.* Band 62, 1914; p 428; pp 15*; \$1.50.

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——— *Mitteilungen über einige der bemerkenswertesten Explosionen beim preussischen Steinkohlenbergbau im Jahre 1913*. [A review of explosions in the anthracite mines of Prussia].—*Zts. Berg, Hütten & Salinenw.* Band 62, 1914; p 339; pp 4*; \$1.50.

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Lighting, Signalling

Lloyd, John.—*Safety and Efficiency in Coal Mining*. [A general discussion of measures taken along this line].—*Coal Age* Aug. 26 1916; p 332; pp 3*; 20c.

Pettibone, C. E.—*Testing Mine Rescue Apparatus*. [Abstract of a paper read before the National Safety Council. Advocates testing breathing apparatus with 5 ozs. internal pressure].—*Coal Age* Nov. 25 1916; p 875; pp 2¼*; 20c.

Sterling, J. T.—*Mine Rescue Work Developed in Alberta*. [Abst. from a paper read before the Canadian Mg. Inst., being a general description of the advances made along that line in the province].—*C. Tr. Bull.* Oct. 2 1916; p 34; pp 1¼; 25c.

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Crankshaw, H. M.—*Mining and Ventilation Methods in Thick Pitching Beds*. [A paper to be read at the A. I. M. E. Arizona meeting].—*Coal Tr. Bull.* Aug. 15 1916; p 23; pp 5*; 25c.

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Johnson, Moses.—*Ventilating Mines When Tipples Are on Fire*. [Diagrams are given to illustrate the methods].—*Bull. Canadian Mg. Inst.* July 1916; p 655; pp 7*; 35c.

Williams, R. Y.—*Mine Ventilation Stoppings*. [Costs of construction and maintaining are given with methods of constructing the stoppings, with special reference to Illinois fields].—*U. S. Bur. of Mines Bull.* 99; pp 80*; 20c.

Labor, Management, Sociological

Fay, A. H.—*Coal Mine Fatalities in the United States, 1870-1914*. Also contains statistics on coal production, labor and mining methods by states and calendar years].—*U. S. Bur. of Mines; Bull.* 115; pp 366; 50c.

Fay, Albert H.—*Coal Mine Fatalities in the United States, May, 1916*. [The nature, number and location of the accidents are given in tabulated form].—*U. S. Bur. of Mines Monthly Statement*; pp 28.

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1916].—Bur. of Mines Statement July 1916; pp 28.

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Miscellaneous

Pickup, William.—*Effects of Labor Movements and Legislation on the Economic Position of Coal Mining*. [A paper read before the Manchester Geol. and Mg. Soc., England].—I. & C. Tr. Rev. Nov. 17 1916; p 609; pp 1; 35c.

Wilson, Herbert M.—*Workmen's Compensation Insurance and the Coal Mining Industry*. [A general discussion of the subject from an economic viewpoint].—Mg. Cong. Jnl. Oct. 1916; p 156; pp 7; 35c.

Production

Blake, A. F.—*A Graphic Chart for the Valuation of Coal*. [The chart is reproduced and from it the values can be obtained according to the water, ash and B. T. U. content of the coal in question].—Jnl. of Ind. & Engg. Chem. Dec. 1916; p 1140; pp 234; 60c.

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Britain].—I. & C. Tr. Rev. Sept. 8 1916; p 271; pp 2½; 35c.

Gadd, C. J.—*Use of Powdered Coal in Metallurgical Processes*. [A discussion of the engineering principles involved].—Jnl. Frank. Inst. 1916 No. 182; p 323; pp 30; 35c.

Hopwood, William.—*Mining and Dealing with Mine Water in the Buckey Coalfield, England*. [A paper read before the National Assn. of Colliery Mgrs. Details are given of the methods used in this mine].—I. & C. Tr. Rev. Sept. 15 1916; p 314; pp 3*; 35c.

Hopwood, William.—*Some Personal Experiences in Coal Mining in North Borneo*. [A paper read before the National Assn. of Colliery Managers, England].—I. Tr. Rev. Dec. 1 1916; p 674; pp 2*; 35c.

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Mairret, F. F.—*Fuel Economy at Collieries*. [A paper read before the Midland Inst. of Mg., Civil & Mech. Eng.].—I. & C. Tr. Rev. July 21 1916; p 70; pp 2*; Coll'y Guard. July 21 1916; p 114; pp 2½*; 35c.

Mathews, P. L.—*Making a Cost Profile*. [Method for plotting costs in curve form].—Coal Age Nov. 4 1916; p 751; pp 1½*; 20c.

McArthur, J. D.—*The Utilization of Coal to the Best Advantage in the Interests of National Economy*. [A paper read before the Inst. of Marine Engineers, England].—I. & C. Tr. Rev. Nov. 10 1916; p 582; pp 2; 35c.

Nebel, Merle L.—*Specific Gravity Tests of Illinois Coals*. [On the way in which the tests were made and the results as obtained with Illinois coals].—Univ. Ill. Bull. 89; pp 49*.

Parr, S. W.—*Chemical Study of Illinois Coals*. [Gives the analysis and discussion regarding the same for a number of different samples].—Ills. Geol. Surv. Bull. 3; pp 86*.

Pearce, William.—*Consumption of Coal in the Prairie Provinces*. [Details for provinces, prices, etc., are included. Considerable of the information is tabulated].—Canadian Mg. Inst. Bull. Sept. 1916; p 790; pp 5½; 50c.

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Ralston, O. C.—*Graphic Studies of Ultimate Analyses of Coals*. [A graphic method described in detail by which coals are classified and studied according to their chemical contents].—U. S. Bur. of Mines Tech. Paper 93; pp 41*; 20c.

Ramsberg, C. J.—*Problems in Byproduct Coking*. [A paper read before the Eng. Soc. of West Pennsylvania, in which reference is made to the mixing of coals for coking and not the mechanical side of the question].—Coal Age Dec. 9 1916; p 969; pp 1½; 20c.

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—*French Maximum Prices for Imported Coals*.—Coll'y Guard. Aug. 18 1916; p 306; pp 1½; 35c.

—*New South Wales Embarks on Coal Mining Enterprise*. [A state owned coal mine].—Mg. & Engg. Rev. Oct. 5 1916; p 13; pp 1; 35c.

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By-Products

Bowie, C. P.—*Construction and Operation of a Single-Tube Cracking Furnace for Making Gasoline*. [Contains drawings and details, besides information for operation of the furnace].—U. S. Bur. of Mines Tech. Paper 161; pp 16*; 20c.

Brooks, Alfred H.—*The Alaskan Mining Industry in 1915*. [Reviews the production and conditions in different districts with information on coal and metal mining law].—U. S. G. S. Bull. 642-A; pp 71*.

Childs, W. H.—*The Disposition of By-Product Oven Derivatives*. [A paper read before the American Iron and Steel Inst. A complete flow sheet is shown].—Coal Age Aug. 26 1916; p 344; pp 2*; 20c.

Clarke, Thomas C.—*The By-Product Oven an Adjunct to Preparedness*. [A paper read before the Soc. of Chem. Ind.].—Coal Age Aug. 26 1916; p 342; pp 1¾; 20c.

Dominian, Leon.—*Fuel in Turkey*. [Coal and petroleum are reviewed separately by the places in which they occur. The production, location and nature of the deposits are given].—Bull. A. I. M. E. June 1916; p 1011; pp 20*; 35c.

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Jimenez, Carlos P.—*Estadística Minera en 1914, Peru*. [Mineral statistics of Peru in 1914].—Cuerpo de Ingenieros de Minas Boletín No. 82; pp 150.

Lesher, C. E.—*Coal in 1915*. [Reviews of each producing state are made as regards operations and productions, besides a general review of conditions affecting the coal industry in the United States].—Min. Res. U. S. II:24; pp 87.

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Shumway, Ralph W.—*The Coal Industry of Colorado*. [A general review of the industry in Colorado and the coal production].—Colo. School of Mines Q'tly April 1916; p 26; pp 7; 35c.

—*Boilers Heated by Coke-Oven Gas*. [Drawings of installations are shown and method of operation de-

scribed].—I. & C. Tr. Rev. Aug. 25 1916; p 213; pp 3½*; 35c.

—*British Columbia Annual Report of the Minister of Mines for 1915*. [Reviews metal production in general for the province and in detail for operating companies].—Mg. Engg. & Elect. Rec. Aug. 1916; p 76; pp 3½; 35c.

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—*Chinese Mineral Industry in 1915*. [A review of the production of refined metals].—July 8 1916; p 477; pp ¾; 35c.

—*Iowa State Mine Inspectors' Report for the Biennial Period Ending Dec. 31, 1915*. [Reviews operations by counties, giving mine production and new equipment installed at mines, with accidents in the district in tabulated form].—State Mg. Bur. Report; pp 112.

—*Italy's Coal Trade During War Doubles with America*. [Reviews the situation, production, imports and exports].—C. Tr. Bull. Aug. 1 1916; p 40; pp 2½; 25c.

—*Mines Inspector's Reports for 1915*. [A report of accidents, operations and labor conditions at mines in Great Britain, being confined mostly to coal].—I. & C. Tr. Rev. Oct. 20 1916; p 483; pp 3; 35c.

—*Mining in India*. [From production statistics issued by the Indian Geol. Surv.].—Mg. Jnl. Dec. 9 1916; p 812; pp 2; 35c.

—*New Coal Washery, Coke Ovens and By-Product Plant at Risca Colliery, England*. [Contains a supplement sheet with line drawings and views of the plant].—I. & C. Tr. Rev. Dec. 1 1916; p 663; pp 5*; 35c.

—*New South Wales in 1915*. [Reviews the production of metals in the country].—Mg. Jnl. Sept. 2 1916; p 596; pp 2; 35c.

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—*Rhodesia Chamber of Mines, Annual Report, 1915*. [Questions brought up during the year are spoken of, with accounts of the production of various metals and a review of the labor bureau].—Rhodesia Chamber of Mines, 1915 Report; pp 71.

—*Rhodesia Chamber of Mines Report of the Executive Committee*. [Tables of details on the production of gold

and asbestos properties in the district are given].—Rhodesia Chamber of Mines Report Aug. 1916; pp 6.

— *Rhodesia Report of the Executive Committee of the Chamber of Mines and Production of Gold and Other Minerals in May, 1916.* [The production of operating gold companies is given individually].—Rhodesia Chamber of Mines Report May 1916; pp 6.

— *Six Months of Wonderful Prosperity for United States Mining.* [Reviews the first half of the year's production].—Mg. World Aug. 5 1916; p 229; pp 8½*; 10c.

— *The Swedish Iron, Steel and Coal Industry in 1915.* [Some of the statistics, curves, etc., are taken from Jernkontoret's Annaler].—I. & C. Tr. Rev. Nov. 17 1916; p 614; pp 1*; 35c.

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COAL BRIQUETTING

See under Mill and Milling.

COKE

Burr, K. M.—*Safety in Coke Oven Operations.* [A paper read before the National Safety Council advocating the selection of workmen as a means for reducing accidents].—Coal Age Oct 28 1916; p 709; pp 2*; 20c.

Cooper, M. Stanley—*L'Industrie des Sous-Produits du Coke et Son Rapport Avec La Fabrication du Fer et de L'Acier.* [Abstract from the journal of the Iron and Steel Inst. dealing with the by-product coke industry and the making of iron and steel].—Metallurgie, French Feb. 1916; p 79; pp 22*; 75c.

Foster, J. R.—*Coking Coal Industry in Harlan County, Kentucky.* [A paper read before the Kentucky Mining Inst., in which a general review is made of the materials and methods used in the district].—Coal Age Dec. 16 1916; p 1002; pp 1½; 20c.

Leshner, C. E.—*Coke in 1915.* [Besides a review of production and activities in detail a map showing the location of all plants in the U. S. is given and the number of ovens at each is designated. Another table shows production by states from 1880 on].—Min. Res. of U. S. II:26; pp 44.

Mingaye, J. C. H.—*The Saving By-Products in Coke Manufacture.* [From

the Mineral Resources Bulletin, N. S. W., Dept. of Mines].—Mg. & Engg. Rev. Sept. 5 1916; p 315; pp 3¼; 35c.

Ramsberg, C. J.—*Problems in By-product Coking.* [A paper read before the Eng. Soc. of West Pennsylvania, in which reference is made to the mixing of coals for coking and not the mechanical side of the question].—Coal Age Dec. 9 1916; p 969; pp 1¼; 20c.

Schiefer, H. V.—*Machinery for Mitchell Type of Rectangular Coke Oven.* [Speaks of machinery used in the handling of materials for this type of oven].—Coal Age Nov. 11 1916; p 796; pp 4½*; 20c.

Still, C.—*Kritische Streifzüge durch das Gebiet der Kokerindustrie.* [A general talk on the coking industry, in which several formulas relative thereto are given].—Glückauf Oct. 1 1916; p 829; pp 7½*; 50c.

— *A Modern Plant for Making Coke.* [Describes how coke and by-products are made on a commercial scale].—I. Tr. Rev. Sept. 14 1916; p 515; pp 1½*; 25c.

— *Boilers Heated by Coke-Oven Gas.* [Drawings of installations are shown and method of operation described].—I. & C. Tr. Rev. Aug. 25 1916; p 213; pp 3¼*; 35c.

— *Boilers Heated by Coke-Oven Gas.* [On equipment and installations for following this practice. Drawings are given with description].—I. & C. T. Rev. Sept. 8 1916; p 280; pp 1½*; 35c.

— *Coke Production for Nine Months of 1916.* [From the Connells-ville Courier].—Coal Tr. Bull. Nov. 1 1916; p 27; pp 1¼; 25c.

— *New Coal Washery, Coke Ovens and By-Product Plant at Risca Colliery, England.* [Contains a supplement sheet with line drawings and views of the plant].—I. & C. Tr. Rev. Dec. 1 1916; p 663; pp 5*; 35c.

— *Thrislington Colliery's New Coking and By-Product Plant, Durham, England.*—I. & C. Tr. Rev. June 23 1916; p 717; pp 1*; 35c.

PEAT

Anrep, Aleph.—*Investigation of the Peat Bogs and Peat Industry of Canada, 1913-1914.* Each bog-area is described separately and grouped by provinces in which they are located. Notes on foreign peat production are given].—Canada Dept. of Mines, Mines Branch Bull. 11; pp 185*.

Condict, G. Herbert.—*Is Dewatering*

Peat by Machinery Commercially Practicable.—Jnl. Amer. Peat Soc. Oct. 1916; p 204; pp 2; \$1.60.

Huels, Frederick William.—*The Peat Resources of Wisconsin.* [Abstract of Bulletin 45 of the Wisconsin Geol. Surv., in which the nature of the beds and properties of the peat found in the several localities is given].—Jnl. Amer. Peat Soc. Oct. 1916; p 237; pp 12; \$1.60.

Irinyi, Arnold.—*Die Physikalisch-Chemischen Vorgänge bei Verdampfung von Heizöl mit Besonderer Rücksicht auf die Verwendung von Oelfeuerungen in Giesserei-Öfen.* [On the physical and chemical properties and changes of oil burned in metallurgical furnaces].—Petroleum Oct. 7 1914; p 9; pp 5½; 60c.

Lisitzin, Fr.—*Russian Peat Industry.* [Gives the results of the analyses of many samples].—Jnl. of American Peat Soc. July 1916; p 138; pp 3.

Morgan, G. T.—*Some Chemical Aspects of the Peat Problem.* [Reprint from the Irish Technical Jnl. Treats on the using of this resource for making gas and ammonia products].—Jnl. of American Peat Soc. July 1916; p 141; pp 10*.

Smith, Sumner S.—*The Cache Creek Dredge, Alaska.* [Describes the dredge, its fuel question and the handling of the gravel from the dredge in recovering the gold].—M. & S. P. Dec. 23 1916; p 908; pp 2*; 20c.

——— *Bacterized Peat.* [Treats on the relation of bacteria to the formation of peat].—Jnl. Amer. Peat Soc. Oct. 1916; p 201; pp 2½; \$1.60.

——— *Jameson-Wet Carbonizing, Ltd., Patent Lawsuit.* [Much of the discussion is of interest in regards to dewatering peat in general].—Jnl. of American Peat Soc. July 1916; p 151; pp 14.

MISCELLANEOUS FUELS

Cooper, Stanley, G.—*The Production and Use of Power and Its Relation to Fuel Economy.*—I. & C. Tr. Rev. June 30 1916; p 743; pp 1½*; July 14 1916; p 44; pp 1*; 70c.

Emley, W. E.—*The Comparative Values of Different Kinds of Fuels for Lime Burning.* [Specific data and information are included in the description].—National Lime Mfg. Bull. 22; pp 6; 25c.

Frey, W. P.—*Modern Practice in Fuel Briquetting.* [Describes a plant operating successfully and using petroleum residuum for a binder or cementing material].—Coal Age Dec. 9 1916; p 960; pp 3¾*; 20c.

Gadd, C. J.—*Empleo de Carbon Pulverizado Para el Caldeo de los Hornos Siderurgicos.* [Abst. from the Jnl. of the Franklin Inst. on the use of powdered coal for fuel].—Revista Minera Aug. 8 1916; p 380; pp 3¾*; 35c.

Gadd, C. J.—*The Use of Powdered Coal in Metallurgical Processes. A Discussion of the Principles Involved.* [A paper read before the Mining and Metallurgical Section].—Jnl. of Franklin Inst. Sept. 1916; p 323; pp 39*; 60c.

Haas, Herbert.—*Diesel Engines Versus Steam Turbines for Mine Power Plants.* [Compares the advantages and costs of operating each with respect to generating electricity. Details on fuel costs are given].—Bull. A. I. M. E. July 1916; p 1171; pp 13*; 35c.

Johnson, J. E., Jr.—*Blast Furnace Irregularities and Their Treatment.* [Tells of remedies for and discusses many things unusual in furnace operation, such as a chilled hearth].—Met. & Chem. Engg. July 15 1916; p 69; pp 8*; 30c.

Johnson, J. E., Jr.—*The Rate of Driving the Blast Furnace.* [The effects resulting from too slow or fast a rate are discussed in detail in particular on the power requirements for blowing and fuel consumption].—Met. & Chem. Engg. July 1 1916; p 21; pp 4¾*; 30c.

Peabody, E. H.—*Oil Fuel.* [A paper read before the International Engineering Congress].—Pract. Eng. July 15 1916; p 607; pp 6¾; 20c.

Peabody, Ernest H.—*Oil Fuel.* [On the use of forced draft and blowers in using oil fuel for generating steam].—Pract. Eng. Sept. 1 1916; p 737; pp 2¾*; 20c.

Pope, George S.—*Methods of Sampling Delivered Coal.* [Methods of sampling used in the government purchase of coal].—U. S. Bur. of Mines Bull. 116; pp 64*; 25c.

Smith, E. B.—*Efficiency of Shaking Grates as Applied to Lime Kilns.* [Details and drawings bringing out the use of this grate are given].—National Lime Mfg. Assn. Bull. 10; pp 10*.

——— *Coal Miners' Pocketbook.* [Gives rules, principles, formulas and tables].—McGraw-Hill Co.; book; pp 1172*; \$4.

——— *Cost of Coal and Oil as Fuel.* [Abst. from Power. The cost of steam per pound is given, with the evaporation per pound of coal and B. T. U. per gallon of oil].—E. & M. J. July 8 1916; p 93; pp 1¾*; 25c.

——— *Description of the Laboratories of the Mines Branch of the Department*

of *Mines, Ottawa, Ontario*. [Laboratories for investigating fuels, milling and metallurgical processes, ceramics, metallography, etc., are described in detail].—Canada Mines Branch Bull. 13; pp 111*.

——— *Oil Fuel*. [On methods of pumping and piping the oil to the burn-

ers].—Pract. Eng. Aug. 1 1916; p 648; pp 1¾*; 20c.

——— *Smokeless Fuel, Gas, Oil and Ammonia Production*. [A description of equipment used and some details on the methods of operation].—I. & C. Tr. Rev. July 7 1916; p 10; pp 2*; 35c.

CHAPTER X.

PETROLEUM, NATURAL GAS, ETC.

PETROLEUM

Arnold, Ralph.—*Conservation of the Oil and Gas Resources of the Americas*. [Reviews the deposits and possibilities of each country separately].—Eco. Geol. June 1916; p 299; pp 28; 60c.

Bacon, Raymond F.; Hamor, William A.—*The American Petroleum Industry*. [In Vol. I the history and geology, etc., regarding oil wells is taken up, while Vol. II is on refining of oil].—McGraw-Hill Co.; books; Vol. I pp 446*; Vol. 2 pp 517*; \$5 each.

Ball, L. C.—*Oil Shales in the Port Curtis District, Queensland, Australia*.—Queen. Geol. Surv. Report.

Ball, Max W.—*Adequate Acreage and Oil Conservation*. [This discussion of situations applies to natural gas as well as oil].—American Mg. Cong. Paper; pp 12; 35c.

Ball, Max W.—*Petroleum Withdrawals and Restorations Affecting the Public Domain*. [Gives the law controlling petroleum lands, with information on withdrawals and restorations. Maps, by states, are given, showing the areas affected].—U. S. G. S. Bull. 623; pp 425; \$1.20.

Bearce, H. W.; Pepper, E. L.—*Density and Therman Expansion of American Petroleum Oils*.—U. S. Bur. of Stand. Tech. Paper 77; pp 26*; 20c.

Boulton, W. S.—*Geology and Petroleum Resources*. [Abst. from the presidential address to the Geological Section of the British Assn.].—Petro. World Oct. 1916; p 489; pp 2½; 35c.

Bowie, C. P.—*Construction and Operation of a Single-Tube Cracking Furnace for Making Gasoline*. [Contains drawings and details, besides information for operation of the furnace].—U. S. Bur. of Mines Tech. Paper 161; pp 16*; 20c.

Brokaw, Albert D.—*Preliminary Oil Report on Southern Illinois*. [Describes areas tested and the geology of the formation with respect to oil deposits].—Ills. Geol. Surv. Bull. 35; pp 13*.

Cameron, W. E.—*Petroleum and Natural Gas Prospects at Roma, Queensland*.—Queen. Geol. Surv. Report.

Conkling, Richard A.—*The Influence of the Movement of Shales on the Area of Oil Production*.—Bull. A. I. M. E. Nov. 1916; p 1969; pp 4*; 35c.

Cox, Thomas.—*Methods and Costs of*

Producing Crude Petroleum in California. [Details are given, with both tables, description and curves].—West. Engg. Sept. 1916; p 347; pp 6½*; 25c.

Daly, M. R.—*The Diastrophic Theory*. [A study and discussion of the theory as regards the mechanics of oil and natural gas accumulations].—Bull. A. I. M. E. July 1916; p 1137; pp 21*; 35c.

De Beque, G. R.—*The Bituminous-Shale Industry in Northwestern Colorado*. [Brief description of activities with respect to treating the shale for its oil and a more detailed description of the geology of the formation].—E. & M. J. Dec. 9 1916; p 1011; pp 1¼*; 25c.

Deustua, Ricardo A.—*La Industria del Petroleo en el Peru Durante 1915*. [A paper read before the Pan-American Congress on the petroleum industry in Peru in 1915].—Inf. y Mem. Soc. Ing. Peru June 1916; p 117; pp 34*; 75c.

Dominian, Leon.—*Fuel in Turkey*. [Coal and petroleum are reviewed separately by the places in which they occur. The production, location and nature of the deposits are given].—Bull. A. I. M. E. June 1916; p 1011; pp 20*; 35c.

Du Toit, Alex. L.—*Report on the Oil-Shales in Impendhle County, Natal, South Africa*. [Part of a report of a Geol. Survey Memoir].—S. Afr. Mg. Jnl. Oct. 28 1916; p 193; pp 2; 35c.

Egloff, G.; Twomey, T. J.; Moore, Robert J.—*The Effect of Temperature and the Time Factor in the Formation of Gasoline in the Gas Phase at Constant Pressure*. [The testing was mostly done with a Pennsylvania crude petroleum oil].—Jnl. of Ind. & Engg. Chem. Dec. 1916; p 1102; pp 3¼*; 60c.

Egloff, G.; Twomey, T. J.—*The Formation of Aromatic Compounds from the Cracking of a Gas Oil*. [This kind of oil is found in Pennsylvania].—Met. & Chem. Engg. July 1 1916; p 15; pp 2¼*; 30c.

English, Walter A.—*Geology and Oil Prospects of Cuyama Valley, California*. [On the geological structure with respect to oil possibilities].—U. S. G. S. Bull. 621-M; pp 25*.

Fath, A. E.—*An Anticlinal Fold Near Billings, Noble County, Oklahoma*. [The geology and formation of the anticline is described relative to the possibilities of oil and gas, which is found 20 miles from

the anticline].—U. S. G. S. Bull. 641-E; pp 18*.

Forbes-Leslie, William.—*The Norfolk Oil Shales*. [A paper read before the Inst. of Petroleum Technologists, England. In England and Scotland oil is found mostly in these shales and similar formation].—Petro. World Nov. 1916; p 525; pp 5; 35c.

Galpin, S. L.—*Petroleum Engineering*. [A talk on what are the duties of a petroleum engineer].—Iowa Eng. Nov. 1916; p 45; pp 4; 25c.

Hamilton, Fletcher.—*California's Water Infiltration Law*. [In regard to the infiltration of oil-sands with water].—Mg. Cong. Jnl. Oct. 1916; p 131; pp 4; 35c.

Hamilton, W. R.—*The California Gasoline Industry*.—Bull. A. I. M. E. June 1916; p 1073; pp 5; 35c.

Hares, C. J.—*Anticlines in Central Wyoming*. [This area of 5000 square miles was investigated with regard to the possibilities of oil, but is located between Casper and Lander, contiguous to which city oil is now being produced].—U. S. G. S. Bull. 641-I; pp 47*.

Hennion, Charles.—*The New Baicoi Field of Roumania*. [Describes activities and current events in the field].—Petro. World Aug. 1916; p 375; pp 2; 35c.

Hopkins, Oliver B.—*Structure of the Vicksburg-Jackson Area, Mississippi*. [Geologic review of the area, bringing features showing the possibilities of oil and gas].—U. S. G. S. Bull. 641-D; pp 28*.

Johnson, R. H.; Huntley, L. G.—*Principles of Oil and Gas Production*. [Treats on the nature and genesis of the deposits, methods of drilling and prospecting, methods of operating and last an economic geological review of oil and gas].—Wiley & Sons; book; pp 371*; \$3.75.

Jimenez, Carlos P.—*Estadística Minera en 1914, Peru*. [Mineral statistics of Peru in 1914].—Cuerpo de Ingenieros de Minas Boletín No. 82; pp 150.

Kobbé, William H.—*Problems Connected with the Recovery of Petroleum from Unconsolidated Sands*. [Details for the opening up of such oil deposits are given in detail].—A. I. M. E. Bull. Dec. 1916; p 2253; pp 24*; 35c.

Krebs, Charles E.; Teets, D. D., Jr.; White, I. C.—*County Reports of Raleigh and the Western Portions of Mercer and Summers Counties, West Virginia*. [An account of the geology, mineral deposits and operations].—W. Va. Geol. Surv. Report; pp 778*.

Lee, Wallace.—*Geology of the Kentucky Part of the Shawneetown Quadrangle*. [The economic deposits are composed of coal, oil, lead, zinc and clay].—Kentucky Geol. Surv.; pp 73.

Lewis, James O.; McMurray, W. F.—*The Use of Mud-Laden Fluid in Oil and Gas Wells*. [Describes the system and other methods of details in drilling for the purpose of stopping waste of gas in drilling for oil wells].—U. S. Bur. of Mines Bull. 134; pp 86*; 25c.

Lowell, F. L.—*Mines and Mineral Resources of Del Norte, Humboldt and Mendocino Counties, California*. [Reviews operations in detail, locates separate deposits and describes them].—Calif. Mg. Bur.; pp 59*.

Mabery, C. F.—*The Relations of Chemical Composition of Petroleum to Its Genesis and Geologic Occurrence*. [A detailed discussion of the subject from a practical and theoretical view point].—Eco. Geol. Sept. 1916; p 511; pp 17; 60c.

McCoy, A. W.—*Some Effects of Capillarity on Oil Accumulation*. [A paper read before the Geologic Conference of Oklahoma. It deals with the porosity of rocks and the attended capillary attraction as affecting oil deposits].—Jnl. of Geol. Dec. 1916; p 798; pp 8*; 75c.

McLaughlin, R. P.; Bradley, Walter C.; Brown, G. Chester; Lowell, F. L.—*Mines and Mineral Resources of Fresno, Kern, Kings, Madera, Mariposa, Merced, San Joaquin and Stanislaus Counties, California*. [Operations are included in separately describing mines, plants and unworked deposits].—Calif. Mg. Bur.; pp 220*.

McMurray, W. F.; Lewis, James O.—*Underground Wastes in Oil and Gas Fields and Methods of Prevention*. [On the prevention of conditions which reduce production, such as allowing water to enter the sand strata, etc.].—U. S. Bur. of Mines Tech. Paper 130; pp 28*.

Merrill, Frederick J. H.—*Geology and Mineral Resources of San Diego and Imperial Counties*. [Though gold is the principal metal mined, considerable is done in the non-metallic industry].—Calif. Mg. Bur.; pp 113*.

Murphy, S. J.—*A Submarine Pipe Line Across the Atlantic*. [A scheme for the under-sea transportation of oil and similar liquids].—Petro. World Nov. 1916; p 530; pp 2½*; 35c.

Northrop, John D.—*Petroleum in 1915*. [A review is made of the industry with respect to United States as a whole and separate reviews are made of the indus-

try in each state, besides fields in foreign countries].—Min. Res. U. S. II:27; pp 202.

Ohren, D. W.; Garrett, R. E.—*Ponca City Oil and Gas Field, Oklahoma*. [The geology, production and other items related to the field are spoken of and it is contended that many of the wells thought dry are not].—Okla. Geol. Surv. Bull. 16; pp 30*.

Ortega, Pablo.—*Boletín De Minas, Cuba*. [Reviews the operations and production of the mines, mostly in the province of Pinar del Rio. The nature of the deposits and mines of the various companies are described. Several tables of statistics are given in the concluding pages].—Secretaría de Agricultura, Comercio y Minas, Bull. No. 1; pp 157*.

Rakuskin, M. A.—*Ueber die Fortschritte der Naphthologie in Russland im Jahre, 1913*. [On the oil industry in Russia in 1913, including the production of by-products from petroleum].—Petroleum Oct. 21 1914; p 57; pp 4½; Nov. 4 1914; p 98; pp 3½; \$1.20.

Reger, David B.—*The Possibility of Deep Sand Oil and Gas in the Appalachian Geo-Syncline of West Virginia*.—Bull. A. I. M. E. Sept. 1916; p 1709; pp 16*; 35c.

Ries, Heinrich.—*Economic Geology*. [A brief review is made regarding the industry and occurrence of each mineral, including metals and non-metals].—John Wiley & Son; book; pp 856*; \$4.

Smith, Warren D.—*Oil Fields of Tayabas Peninsula, Philippine Islands*. [An account of the oil possibilities in the Philippines].—Oil Age Sept. 1916; p 9; pp 2; 35c.

Stebinger, Eugene.—*Possibilities of Oil and Gas in North-Central Montana*. [Reviews the geologic structure and formation similar to that of other nearby fields].—U. S. G. S. Bull. 641-C; pp 43*.

Stratford, C. W.—*The Refining of Pennsylvania Crude Oil*. [General principles as applied in the different departments are given].—Petro. World Oct. 1916; p 472; pp 3¼*; 35c.

Taylor, W. G.—*Motor Equipment for Petroleum Recovery*. [A paper read before the American Inst. of Elect. Eng. Deals with the use of induction motors in drilling, pumping, and cleaning oil wells].—Elect. Rev. & West. Elect. Aug. 5 1916; p 232; pp 5½*; 20c. West. Engg. Oct. 1916; p 377; pp 1*; 20c.

Taylor, W. G.—*Oil Well Motor Equipment*. [A paper read before the American Inst. of Elect. Eng. Gives the electrical power and equipment needed in drilling an oil well].—Jnl. of Elect. Power & Gas July 1 1916; p 6; pp 2½*; 35c.

Winchester, Dean E.—*Oil Shale in Northwestern Colorado and Adjacent Areas*. [Detailed geologic descriptions of the various formations and tabulated data regarding the nature of the same, as ascertained from drilling, etc., is included].—U. S. G. S. Bull. 641-F; pp 60*.

—*Argentine Oil Industry Reconstituted*. [On laws, costs of operation, etc.].—Petro. World Oct. 1916; p 479; pp 1¼; 35c.

—*Baku Russian Petroleum*. [A review of operations and production in the district].—Petro. World Sept. 1916; p 426; pp 3; 35c.

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—*Chinese Mineral Industry in 1915*. [A review of the production of refined metals].—July 8 1916; p 477; pp ¾; 35c.

—*Chlorination Aided by Actinic Light*. [Speaks of chlorination with respect to hydro-carbons and other petroleum products].—Mg. World Sept. 16 1916; p 506; pp 1*; 10c.

—*Die Petroleumindustrie Russlands im Jahre, 1913*. [The petroleum industry and production in Russia in 1913].—Petroleum Oct. 7 1914; p 14; pp 2; 60c.

—*Mining in India*. [From production statistics issued by the Indian Geol. Surv.].—Mg. Jnl. Dec. 9 1916; p 812; pp 2; 35c.

—*New Safety Method for Drilling Tools*. [These tools have recently been invented with the idea of helping to prevent their loss in the hole].—Petro. World July 1916; p 313; pp 2*; 35c.

—*New Under-Reamer Efficient*. [A device for use in oil-well drilling].—Oil Age Aug. 1916; p 9; pp 1½*; 35c.

—*Novel Method of Trapping Gas from an Oil Well*. [Reprinted from Oil News, which describes the building of a concrete dome over an oil well of the Mexican Eagle Co., for recovering the gas].—Petro. World Sept. 1916; p 416; pp 1½*; 35c.

—*Oil in the European War Zone*. [An account of the industry in the several belligerent nations].—Petro. World Nov. 1916; p 520; pp 2¾; 35c.

—*Oil Prospects in Ecuador*. [A general review of the industry in that country].—Calif. Derrick Sept. 1916; p 3; pp 1¼; 30c.

—*Outlook in the Galician Oil Industry*. [Discusses several items affecting the industry].—Petro World Aug. 1916; p 369; pp 1¼; 35c.

— *Pipe-Line Transportation of Petroleum*. [Full financial, cost, construction and operation accounts of various pipe lines in U. S. are given].—U. S. Federal Trade Commission Report; pp 467*.

— *Possibilities of Wyoming Field*. [In speaking of the possibilities of the oil fields in the state considerable history regarding them is brought out].—Cal. Derrick Nov. 1916; p 3; pp 1¼; 25c.

— *Russian Petroleum Company*. [Discusses operations for part of 1916, including profits, production and deep drilling].—Petro. World Sept. 1916; p 431; pp 3; 35c.

— *Six Months of Wonderful Prosperity for United States Mining*. [Reviews the first half of the year's production].—Mg. World Aug. 5 1916; p 229; pp 8¾*; 10c.

— *The Diastrophic Theory*. [Discussion of a paper by Marcel R. Daly with respect to the genesis of oil and gas deposits from an organic origin].—A. I. M. E. Bull. Dec 1916; p 2204; pp 7; 35c.

— *Trapping Gas from Oil Well*. [On a novel method for accomplishing the same].—Petro. World Sept. 1916; p 416; pp 2*; 35c.

— *War Laws About Oil in Galicia*. [The Austrian government's steps to increase production and development].—Petro. World Oct. 1916; p 476; pp 1¼; 35c.

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[A study and discussion of the theory as regards the mechanics of oil and natural gas accumulations].—Bull. A. I. M. E. July 1916; p 1137; pp 21*; 35c.

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Hines, Richard P.—*Natural Gas Operating Coal Mines*. [Speaks of a central gas-power station of the Consolidated Coal Co., W. Va., and the distribution of the electricity from this station to the mines].—C. Tr. Bull. Oct. 2 1916; p 34; pp 1¼; 25c.

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Toso, Pietro.—*Sul Modi di Formazione dei Giacimenti Petroliferi e Soliferi*. [On the method of formation of petroliferous and sulphurous materials].—Ind. Chim. Min. & Met. June 10 1916; p 177; pp 5; June 25; p 193; pp 3½*; 70c.

Wade, Arthur.—*Petroleum Prospects on Bruny Island, Tasmania*. [Deals with the geology and possibilities there].—Tasmania Parliament Report No. 60; pp 6*; 50c.

Way, Herbert, W. L.—*The Minerals of Sze-Chuan, China*. [Brief descriptions of the deposits, their possibilities and operation. Salts have been mined, petroleum is plentiful and gold, silver and copper give promise].—Mg. Mag. July 1916; p 20; pp 4*; 50c.

Wolf, Fred L.; Burr, Robert B.—*Tests of Natural Gas Fired, Brass Melting Furnaces Under Factory Operating Conditions*.—Trans. American Inst. of Metals Vol. IX; p 343; pp 24*; 35c.

Wyer, Samuel S.—*Valuation of Natural Gas Rights*. [A paper to be read before the A. I. M. E. on the economic value of leaseholds on gas land].—I. Tr. Rev. Aug. 10 1916; p 267; pp 4; 25c.

Zanetti, J. E.; Leslie, E. H.—*The Thermodynamic Decomposition of the Ethane-Propane Fraction from Natural Gas Condensate*.—Jnl. Ind. & Engg. Chem. Sept. 1916; p 777; pp 2*; 60c.

— *Novel Method of Trapping Gas from an Oil Well*. [Reprinted from Oil News, which describes the building of a concrete dome over an oil well of the Mexican Eagle Co., for recovering the

gas].—Petro. World Sept. 1916; p 416; pp 1½*; 35c.

— *The Diastrophic Theory*. [Discussion of a paper by Marcel R. Daly with respect to the genesis of oil and gas deposits from an organic origin].—A. I. M. E. Bull. Dec. 1916; p 2204; pp 7; 35c.

BITUMENS

Bacon, Raymond F.; Hamor, William A.—*The American Petroleum Industry*. [In Vol. I the history and geology, etc., regarding oil wells is taken up, while Vol. II is on refining of oil].—McGraw-Hill Co.; books; Vol. I pp 446*; Vol. II pp 517*; \$5 each.

De Beque, G. R.—*The Bituminous-Shale Industry in Northwestern Colorado*. [Brief description of activities with respect to treating the shale for its oil and a more detailed description of the geology of the formation].—E. & M. J. Dec. 9 1916; p 1011; pp 1¾*; 25c.

Du Toit, Alex. L.—*Report on the Oil-Shales in Impendhle County, Natal, South Africa*. [Part of a report of a Geol. Survey Memoir].—S. Afr. Mg. Jnl. Oct. 28 1916; p 193; pp 2; 35c.

Forbes-Leslie, William.—*The Norfolk Oil Shales, England*. [From a paper read before the Inst. of Petro. Tech. describing the geology of the several formations].—Coll'y Guard. Nov. 3 1916; p 853; pp 1½; 35c.

Northrop, John D.—*Asphalt, Related Bitumens and Bituminous Rock in 1915*. [Reviews the production and industry for United States and foreign countries].—Min. Res. of U. S. II:13; pp 16.

Steuart, D. R.—*The Shale Oil Industry in England*.—Jnl. Soc. of Chem. Ind. July 31 1916; p 774; pp 2½; 50c.

Winchester, Dean E.—*Oil Shale in Northwestern Colorado and Adjacent Areas*. [Detailed geologic descriptions of the various formations and tabulated data regarding the nature of the same, as ascertained from drilling, etc., is included].—U. S. G. S. Bull. 641-F; pp 60*.

CHAPTER XI.

STRUCTURAL AND CERAMICS.

BRICK AND TILE

Kelley, W. H.—*Fire Brick for the Lime Kiln*. [A talk on the uses and properties of different brick used in different plants].—National Lime Mfg. Bull. 21; pp 5; 25c.

Middleton, Jefferson.—*Clay-Working Industries and Building Operations in the Larger Cities in 1915*. [Reviews the production and operations of clay pits and brick manufactures by states and the entire industry for the United States].—Min. Res. U. S. II:30; pp 68.

Nesbit, C. E.; Bell, M. L.—*Testing Refractory Fire Brick*. [Abstract of a paper read before the American Soc. for Testing Materials].—E. & M. J. Dec. 2 1916; p 967; pp 34; 25c.

Sweely, B. T.—*Porous Brick by Use of Sawdust*. [It is pointed out that these bricks are satisfactory for heat insulation work, and can be manufactured by the user of the brick].—B. & C. Rec. Nov. 21 1916; p 906; pp 14; 35c.

West, John.—*Silica and Fireclay Materials*. [A paper read before the Manchester District Institution of Gas Eng. Gives analyses of the composition of several bricks and describes the making of the same].—I. & C. Tr. Rev. June 16 1916; p 691; pp 1*; 35c.

CEMENT

Brantly, J. E.—*A Report on the Limestones and Marls of the Coastal Plain of Georgia*. [The geology of the formation and descriptions of deposits by counties. The uses and preparation of the rock are also given].—Georgia Geol. Surv. Bull. No. 21; pp 300*.

Burchard, Ernest F.—*Cement in 1915*. [Takes up different phases of the market separately and gives curves in some instances, with the production in each case].—Min. Res. of U. S. II:16; pp 24.

Burchard, Ernest F.—*Potash as a By-Product in the Cement and Iron Industries*. [Abst. from the Manufacturer's Record. Consists of some details in a general discussion and review of the subject].—Chem. Eng. & Mfg. Sept. 1916; p 104; pp 4; 30c.

Campbell, Edward D.—*Some Slow Volume Changes in Portland Cement*. [Treats on the subject from the point of view that free lime and magnesia cause

dangerous expansion in Portland cement].—Jnl. of Ind. & Engg. Chem. Dec. 1916; p 1101; pp 134; 60c.

Diekman, P.—*Chemistry of Portland Cement*. [Abst. from the Jnl. of the American Soc. of Mechanical Engineers].—Met. & Chem. Engg. July 1 1916; p 41; pp 112; 30c.

Findlay, D. C.—*Electrification of a Modern Cement Plant*. [A description of the Oregon Portland Cement Co.'s plant].—Jnl. of Elect. Power & Gas Sept. 16 1916; p 218; pp 2*; 35c.

Pierce, Edwin G.—*The Determination of Sulphuric Anhydride in Portland Cement Analysis*. [Complete description of a method].—Chem. Eng. & Mfg. Aug. 1916; p 62; pp 134*; 30c.

Stone, Ralph W.—*Gypsum in 1915*. [Reviews the uses, methods of refining and production].—Min. Res. of U. S. II:14; pp 9.

——— *Mason City, Iowa, Plant of the Northwestern States Portland Cement Co.*—Chem. Eng. & Mfg. July 1916; p 6; pp 14; 30c.

——— *Six Months of Wonderful Prosperity for United States Mining*. [Reviews the first half of the year's production].—Mg. World Aug. 5 1916; p 229; pp 84*; 10c.

——— *Utilization of Shells in Manufacture of Portland Cement—Plant of Texas Portland Cement Co.*—Chem. Eng. & Mfg. Aug. 1916; p 60; pp 144*; 30c.

CLAYS AND CERAMICS

Arbogast, C. O.; Sheridan, L. J.—*Throwing the Searchlight on the Clay Plant Pyrometer*. [A description of the pyrometer and its uses].—B. & C. Rec. July 18 1916; p 123; pp 312*; Aug. 1 1916; p 216; pp 5; Aug. 15 1916; p 310; pp 2*; \$1.05.

Clapp, Charles H.—*Geology of the Nanaimo Map-Area*. [The area is on Vancouver island, British Columbia. Coal is the main product, though sand and gravel, clay and stone are also produced].—Canada Geol. Surv. Memoir 51; pp 135*.

Darton, N. H.—*Geology and Underground Water of Luna County, New Mexico*. [A very complete description of the geologic formation].—U. S. G. S. Bull. 618; pp 188*.

Farnham, Dwight T.—*The Application*

of *Scientific Management to Burning Clay*. [Discusses methods for keeping tract of the results of operations under varying conditions].—B. & C. Rec. Sept. 5 1916; p 403; pp 5*; 35c.

Greaves-Walker, A. F.—*The Path to Success in Operating a Continuous Coal-Fired Tunnel Kiln*.—B. & C. Rec. July 4 1916; p 27; pp 2½*; 35c.

Greaves-Walker, A. F.—*Testing Clay Properties*. [Deals with methods of sampling and determining the value of a clay deposit in the field].—B. & C. Rec. Dec. 19 1916; p 1083; pp 3*; 35c.

Greaves-Walker, A. F.—*The Operation of a Producer Gas Fired Chamber Kiln*.—B. & C. Rec. Oct. 3; p 595; pp 3½*; Oct. 17 1916; p 711; pp 2½*; 70c.

Greaves-Walker, A. F.—*"Tight Bolt" Setting in Up-Draft Kilns*. [A method little used in this country, but which saves labor, produces more even burns and eliminates kiln markings].—B. & C. Rec. Sept. 19 1916; p 510; pp 2¼*; 35c.

Harger, F. D.—*Gas Analysis Applied to Brick Kilns*. [With the results of analysis and tests, utilization of waste heat and kiln economy are dealt with].—B. & C. Rec. Nov. 7 1916; p 803; pp 3; 35c.

Huac, A. J.—*Cost Accounting for the Clay Plant*. [A series of articles, including forms, tables and description for a complete cost accounting system].—B. & C. Rec. Aug. 15 1916; p 307; pp 3; Sept. 5 1916; p 417; pp 2½; Sept. 19 1916; p 513; pp 1½*; Oct. 3; p 598; pp 1½*; Oct. 17 1916; p 709; pp 1½*; Nov. 7 1916; p 806; pp 2*; Nov. 21 1916; p 901; pp 2*; Dec. 5 1916; p 994; pp 3½*; \$2.45.

Libman, Earl E.—*Kiln Arches*. [Theory, discussion and formulas for figuring the properties and design of kiln arches].—B. & C. Rec. Nov. 7 1916; p 798; pp 4½*; 35c.

Middleton, Jefferson.—*Clay-Working Industries and Building Operations in the Larger Cities in 1915*. [Reviews the production and operations of clay pits and brick manufactures by states and the entire industry for the United States].—Min. Res. U. S. II:30; pp 68.

Middleton, Jefferson.—*Pottery in 1915*. [Treats on the production of materials used in the manufacture of pottery and the amount of pottery manufactured. The production of states is tabulated].—Min. Res. of U. S. II; pp 11.

Staley, Homer F.; Beecher, Milton F.—*Practical Handling of Iowa Clays with Application of Ceramic Principles*. [Methods of prospecting and testing the clay bodies are given, as well as descriptions of methods of manufacturing and

properties of the burned product].—Iowa State College Bull. 43; pp 48*.

Stansfield, J.—*The Pleistocene and Recent Deposits of the Island of Montreal*. [The stratigraphy of the area is described in detail. Clay for red brick is the principal economic product produced].—Canada Geol. Surv. Memoir 73; pp 80*.

—*Description of the Laboratories of the Mines Branch of the Department of Mines, Ottawa, Ontario*. [Laboratories for investigating fuels, milling and metallurgical methods, ceramics, metallography, etc., are described in detail].—Canada Mines Branch Bull. 13; pp 111*.

—*University of Illinois, Dedication of the New Ceramic Building*. [Details of the address made].—B. & C. Rec. Dec. 19 1916; p 1094; pp 3½; 35c.

CONCRETE

Abrams, D. A.—*A Method of Making Wear Tests of Concrete*. [A paper read before the American Soc. for Testing Materials. The method, machine and results of some tests are given].—Canadian Eng. Dec. 21 1916; p 512; pp 2¼*; 35c.

Burroughs, William G.—*A Concrete Tipple in Ohio*. [A tipple for handling a moderate production, built by the Black Diamond Coal Co.].—Coal Age Nov. 25 1916; p 872; pp 1¾*; 20c.

Chace, W. G.; McLean, Douglas L.—*Studies Regarding Concrete Mixtures Employed in Construction of the Shoal Lake Aqueduct*. [A paper read before the Canadian Soc. of Civil Engineers].—Canadian Eng. Oct. 26 1916; p 331; pp 3½; 35c.

Emley, W. E.—*The Comparative Values of Different Kinds of Fuels for Lime Burning*. [Specific data and information are included in the description].—National Lime Mfg. Bull. 22; pp 6; 25c.

Gould, Harry J.—*A Simple and Efficient Cost Keeping System for Concrete Construction*. [Both forms and descriptive information are given].—Engg. & Cont. Aug. 30 1916; p 199; pp 3; 20c.

Hool, G. A.—*Reinforced Concrete Construction*. [Details on the design and construction of all types of concrete structures].—McGraw-Hill Co.; book; pp 688*; \$5.

Hull, Walter A.—*Investigation of Fire Resisting Materials Particularly as Related to Limestone Concrete*. [Describes the furnaces used and gives curves and description with respect to the results of the investigations].—National Lime Mfg. Bull. 20; pp 14*; 25c.

Hunner, H. H.—*Concrete Idler Stands*. [A type constructed and used at the Isabella mine, Palmer, Mich. Some costs of construction are given].—E. & M. J. July 22 1916; p 179; pp 1*; 25c.

Kirkland, H. B.—*Pneumatic Concreting of the Van Buren Street Tunnel*. [Some tables of details are given].—Mine & Quarry Oct. 1916; p 937; pp 2½*; 20c.

Lasier, E. L.—*The Strength of Clamped Splices in Concrete Reinforcement Bars*. [Abstract of a paper read before the Am. Soc. of Testing Materials. Curves and the results and nature of tests are described].—Canadian Eng. Nov. 9 1916; p 373; pp 2¼*; 35c.

Lawrie, W. W.; Smith, G. H.—*Concrete Shaft Equipment at the Bantjes Consolidated Mines, South Africa*. [Details of construction, costs and labor are given].—Jnl. of Chem. Met. & Mg. Soc. of S. Afr. April 1916; p 202; pp 3½*; 85c.

McCullough, Ernest.—*Fundamentals of Reinforced Concrete Design*. [A lecture prepared to deliver at a short course for Manual Training and Vocational teachers].—Portland Cement Assn.; pp 18*; 35c.

McMillan, Franklin R.—*Time Tests of Concrete*. [A paper read before the Engineers' Club of St. Louis. Curves and the results of tests are given].—Canadian Eng. Sept. 14 1916; p 211; pp 4¼*; Sept. 21 1916; p 231; pp 4*; 70c.

Rossback, N. J.—*Tunnel Construction on the Mill Creek Sewer*. [Methods of operating, drilling, compressed air equipment, lining with concrete and brick, etc., are among things described].—Mine & Quarry; Oct. 1916; p 907; pp 11*; 20c.

Sherwin, R. A.—*Forms for Concrete Work*. [Abst. of a paper read before the American Concrete Inst. Details for construction and design of the same].—Canadian Eng. Aug. 17 1916; p 334; 35c. Western Engg. July 1916; p 261; pp 6¾; 20c.

— *Coal Miners' Pocketbook*. [Gives rules, principles, formulas and tables].—McGraw-Hill Co.; book; pp 1172*; \$4.

— *Concreting in Cold Weather*. [Various special methods to be used on work being done in cold weather].—Portland Cement Assn. Sept. 1916; pp 15*; 35c.

— *Concreting the Sacramento Shaft, Bisbee, Arizona*. [Details of the construction, methods of doing the work and costs for materials and labor on the

same are given].—M. & S. P. Oct. 7 1916; p 521; pp 8½*; 20c.

— *Novel Method of Trapping Gas from an Oil Well*. [Reprinted from Oil News, which describes the building of a concrete dome over an oil well of the Mexican Eagle Co., for recovering the gas].—Petro. World Sept. 1916; p 416; pp 1½*; 35c.

— *Plantas para Mezclar Hormigon*. [Large plants for concrete mixing].—Ing. & Contrista Sept. 1916; p 29; pp 6*; 35c.

— *Recommended Specifications for Reinforced Concrete Design*. [A report of the Joint Committee on Concrete and Reinforced Concrete].—Portland Cement Assn. Nov. 1916; pp 10; 35c.

— *Snake Creek Tunnel, Utah*. [A concrete tunnel. The construction and methods used in driving it are described].—M. & S. P. Aug. 5 1916; p 205; pp 2*; 20c.

— *Winnipeg-Shoal Lake Aqueduct Construction*. [Included in this detailed description are sketch drawings of the work which is of reinforced concrete].—Canadian Eng. Nov. 16 1916; p 401; pp 5½*; 35c.

LIME

Brantly, J. E.—*A Report on the Limestones and Marls of the Coastal Plain of Georgia*. [The geology of the formation and descriptions of deposits by counties. The uses and preparation of the rock are also given].—Georgia Geol. Surv. Bull. No. 21; pp 300*.

Crow, W.—*Chemically Correct Hydrate of Lime on a Commercial Basis*. [Discusses the subject and has a supplement drawing of a section of the Schaffner continuous hydrator].—National Lime Mfg. Assn. Bull. 14; pp 8*.

Donaldson, R. D.—*Application of Central Station Power to Lime Plants and Quarries*.—National Lime Mfg. Assn. May 1916; pp 15.

Freeman, O. W.—*Gypsum and Lime Industry in Central Montana*. [A general description of the geology, nature and operation of the deposits, with some information on the operating properties].—Mg. World Oct. 14 1916; p 663; pp 2*; 10c.

Hull, Walter A.—*Investigations of Fire Resisting Materials, Particularly as Related to Limestone Concrete*. [Describes the furnaces used and gives curves and description with respect to the results of the investigations].—National Lime Mfg. Bull. 20; pp 14*; 25c.

Loughlin, G. F.—*Lime* in 1915. [On the uses, units of measurement and production].—Min. Res. of U. S. II:19; pp 20.

Smith, E. B.—*Efficiency of Shaking Grates as Applied to Lime Kilns*. [Details and drawings bringing out the use of this grate are given].—National Lime Mfg. Assn. Bull. 10; pp 10*.

——— *False Prophets in the Machinery Business for the Sake of False Profits*. [A talk on machinery and the lime manufacturing industry].—National Lime Mfg. Assn. Bull. 19; pp 4.

——— *The Plant of the Dolomite Products Co., Narlo, Ohio*. [The plant description includes excavating in the open-pit, on surface and haulage of the broken materials].—Excavating Eng. July 1916; p 371; pp 4*; 20c.

SAND AND GRAVEL

Clapp, Charles H.—*Geology of the Nanaimo Map-Area*. [The area is on Vancouver island, British Columbia. Coal is the main product, though sand and gravel, clay and stone are also produced].—Canada Geol. Surv. Memoir 51; pp 135*.

Stone, R. W.—*Sand and Gravel* in 1915. [Gives tabulated production by states, states in which glass-sand was produced and weight of sand and gravel per cubic yard].—Min. Rec. U. S. II; pp 13.

——— *Modern Gravel Excavation*. [A description of the operations of the John B. Rose Co.'s plant and gravel pit at Marlboro, N. Y.].—Excavating Eng. Dec. 1916; p 91; pp 2½*; 20c.

STONE

Bowles, Oliver.—*The Technology of Marble Quarrying*. [Takes up methods of operation and accounting with a study of the mineralogical constituents of the rock which tend to vary its properties and grade].—U. S. Bur. of Mines Bull. 106; pp 174*; 40c.

Brantly, J. E.—*A Report on the Limestones and Marks of the Coastal Plain of*

Georgia. [The geology of the formation and descriptions of deposits by counties. The uses and preparation of the rock are also given].—Georgia Geol. Surv. Bull. No. 21; pp 300*.

Clapp, Charles H.—*Geology of the Nanaimo Map-Area*. [The area is on Vancouver island, British Columbia. Coal is the main product, though sand and gravel, clay and stone are also produced].—Canada Geol. Surv. Memoir 51; pp 135*.

Darton, N. H.—*Geology and Underground Water of Luna County, New Mexico*. [A very complete description of the geologic formation].—U. S. G. S. Bull. 618; pp 188*.

Gillette, Halbert Powers.—*Handbook of Rock Excavation Methods and Costs*. [Details regarding the different methods used in rock excavation, as drilling, explosives, etc.].—Clark Book Co.; book; pp 835*; \$5.

Hicks, H. L.—*Compressed Air at Rockland Lake Quarry, New York*. [Describes drilling and blasting operations, with some information on the general operation of the quarry].—Comp. Air July 1916; p 8035; pp 4*; 20c.

Hubbard, Prévost; Jackson, F. H., Jr.—*The Results of Physical Tests of Road-Building Rock*. [Gives nature and results of tests with location of place from which sample was obtained].—U. S. Dept. of Agric. Bull. 370; pp 100*.

Humphrey, D. E.—*Drilling and Blasting Shale Banks*. [Discusses several methods of drilling and blasting].—B. & C. Rec. Aug. 15 1916; p 319; pp 4½*; 35c.

Ries, Heinrich.—*Economic Geology*. [A brief review is made regarding the industry and occurrence of each mineral, including metals and non-metals].—John Wiley & Son; book; pp 856*; \$4.

Schultz, J. E. M.—*Central Air Plant at a Georgia Quarry*. [The quarry, compressor plant and equipment are described].—Mine & Quarry Oct. 1916; p 924; pp 5*; 20c.

Wagner, P. A.—*Economic Geology and Mineral Industry of Southwest Africa*.—S. Afr. Mg. Jnl. July 1 1916; p 311; pp 1; 35c.

CHAPTER XII.

OTHER NON-METALS.

ABRASIVES

Katz, F. J.—*Abrasive Materials in 1915*. [Each material is reviewed separately].—Min. Res. of U. S. II:10; pp 16.

Ries, Heinrich.—*Economic Geology*. [A brief review is made regarding the industry and occurrence of each mineral, including metals and non-metals].—John Wiley & Son; book; pp 856*; \$4.

ACIDS

Carnell, W. C.—*Acid Resisting Alloys*. [A paper read before the American Inst. of Chem. Eng. Deals with the properties of duriron, tantiron and the like].—Iron Age July 27 1916; p 182; pp 1¼; 30c.

Fairlie, Andrew M.—*The Control of the Chamber Process for Making Sulphuric Acid*. [A paper read before the American Chem. Soc.].—Amer. Fertilizer Dec. 23 1916; p 21; pp 3; 25c.

Gilbert, J.—*Costs and Profits of an Up-to-Date Spelter Works*. [A practical consideration of the subject and operations connected therewith].—Mg. Jnl. July 15 1916; p 496; pp 1¼; 35c.

Harris, T. N.—*New Sulphuric Acid Plant*. The construction and method of manufacture used by the U. S. Steel Corporation at its plant at Donora, Pa.].—Met. & Chem. Engg. Sept. 15 1916; p 913; pp 5¼*; 35c.

Ingalls, W. R.—*The Donora Zinc Works, Pennsylvania*. [A description of the plant, its equipment and operation].—E. & M. J. Oct. 7 1916; p 648; pp 7*; 25c.

Mason, F. H.—*Synthetic Nitric Acid*. [A general review of theory and practice in manufacturing].—M. & S. P. Aug. 19 1916; p 265; pp 2; 20c.

Parr, S. W.—*The Development of an Acid Resisting Alloy*. [The alloy contains nickel and chromium, with many other ingredients in small quantities].—Trans. American Inst. of Metals Vol. IX; p 211; pp 7*; 35c.

Phalen, W. C.—*Sulphur, Pyrite and Sulphuric Acid in 1915*. [A review of production and conditions, including some foreign countries].—Min. Res. U. S. II: 22; pp 16.

Stander, H. J.—*The Function of Oil and*

Acid in Flotation. [Describes tests and theory, bringing out the principles underlying flotation].—Mg. World Aug. 19 1916; p 317; pp ¾*; 10c.

Swindin, Norman.—*Design of Acid Resisting Iron Apparatus*. [These are made of iron-silicon alloys in varying proportions. To make them resistive to acids the toughness of the metal must at present be sacrificed].—Met. & Chem. Engg. Dec. 1 1916; p 647; pp 2½*; 35c.

Swindin, N.—*The Design of Acid Resisting Iron Apparatus*. [Tells considerable about the making of castings and treatment of the iron to be used in the same].—Chem. Tr. Jnl. No. 59 1916; p 323; pp 2.

Thompson, M. De Kay; Thompson, N. J.—*The Electrolytic Oxidation of Sulphurous Acid*. [Speaks of this phenomena with respect to the electrolytic recovery of copper direct from its ores].—Met. & Chem. Engg. Dec. 15 1916; p 677; pp 2*; 35c.

Turner, W. A.—*The Separation of Vanadium from Phosphoric and Arsenic Acid and from Uranium*. [A description of a chemical method].—American Jnl. of Sci. Aug. 1916; p 109; pp 2; 60c.

——— *Sulphur, Pyrites and Sulphuric Acid*. [A review of production and conditions for the world].—Mg. Jnl. Nov. 4 1916; p 730; pp 1¼; 35c.

ARSENIC

Browning, P. E.; Simpson, G. S.; Porter, L. E.—*On the Qualitative Separation and Detection of Tellurium and Arsenic, Iron and Thallium, and Zirconium and Titanium*. [Details of procedure for this chemical method are given].—American Jnl. of Sci. Aug. 1916; p 106; pp 3; 60c.

Ichikawa, Shimmatsu.—*Some Notes on Japanese Minerals*. [Treats on the peculiar nature of some mineral crystals found in Japan].—American Jnl. of Sci. Aug. 1916; p 111; pp 9*; 60c.

Reid, J. H.—*The Comet Mine, Sundown, Ballandean, Queensland, Australia*. [A geological description of the ore deposits and ore].—Queen. Govt. Mg. Jnl. June 15 1916; p 258; pp 2*; 35c.

Turner, W. A.—*The Separation of Vanadium from Phosphoric and Arsenic Acid and from Uranium*. [A description

of a chemical method].—*American Jnl. of Sci.* Aug. 1916; p 109; pp 2; 60c.

ASBESTOS

Bancroft, J. Austen.—*Mining Operations in Quebec During 1915*. [A separate report on the geology of the zinc-lead deposits in Portneuf county is included].—Quebec Dept. of Mines; Report; pp 146*.

Dunstan, B.—*Queensland Mineral Deposits, Australia*. [A detailed description of nature of occurrence, production, prospects and methods of concentration of asbestos ores].—Queen. Govt. Mg. Jnl. Aug. 15 1916; p 372; pp 3½*; 35c.

Frood, G. E. B.—*The Cape Asbestos Industry, South Africa*. [From the annual report of the Government Mining Engineer. The deposits and working of the same in Cape province are described in detail].—S. Afr. Mg. Jnl. Sept. 30 1916; p 94; pp 1½; Oct. 7; p 127; pp 1½; 70c.

McLaughlin, R. P.; Bradley, Walter C.; Brown, G. Chester; Lowell, F. L.—*Mines and Mineral Resources of Fresno, Kern, Kings, Madera, Mariposa, Merced, San Joaquin and Stanislaus Counties, California*. [Operations are included in separately describing mines, plants and unworked deposits].—Calif. Mg. Bur.; pp 220*.

Taber, Stephen.—*The Genesis of Asbestos and Asbestiform Minerals*. [Includes an account of asbestos and minerals related to it].—Bull. A. I. M. E. Nov. 1916; p 1973; pp 26*; 35c.

Tucker, W. B.—*Mines and Mineral Resources of Amador, Calaveras, Tuolumne*. [Economic mineral products are reviewed by separate descriptions of deposits and mines, with some information on the condition of the country].—Calif. Mg. Bur.; pp 180*.

—*Canada, the Manufacture of Asbestos in.*—Canadian Mg. Inst. Bull. Aug. 1916; p 671; pp 3; 35c.

—*Canadian Metal Trades and Preparedness*. [A study of production, imports and exports].—Canadian Mg. Inst. Bull. Aug. 1916; p 675; pp 16½; 35c.

—*Quebec Mining Industry—A Review for the First Half of 1916*. [Brief accounts of operations at various properties].—Canadian Mg. Inst. Bull. Sept. 1916; p 796; pp 4; 50c.

—*Rhodesia Chamber of Mines Report of the Executive Committee*. [Tables of details of the production of gold and asbestos properties in the district are given].—Rhodesia Chamber of Mines Report Aug. 1916; pp 6.

FELDSPAR

Katz, F. J.—*Feldspar in 1915*. [Reviews the occurrence and nature of the mineral with methods of mining and refining and statistics on its production].—Min. Res. of U. S. II:7; pp 11.

Neumann, B.; Draibach, F.—*Decomposition of Feldspar for the Production of Potassium Salts*.—Zts. Angew. Chem. Vol. 29, 1916; pp 13; \$1.

Watts, A. S.—*The Feldspars of New England and North Appalachian States*. [Goes into the lithology of feldspar rocks in general and gives nature of deposits by states. Methods of testing for quality and concentration of rocks are given].—U. S. Bur. of Mines Bull. 92; pp 181*; 35c.

FERTILIZERS

de Schmid, Hugh S.—*Investigation of a Reported Discovery of Phosphate in Alberta*. [The Commission of Conservation, Canada, found phosphate rock near Banff, Alberta. The nature and geology of the deposits are here described in detail].—Canada Mines Branch; pp 50*.

Harris, H. W.—*Commercial Fertilizers in Germany*. [Considers the subject from a production and consumption view up to 1914].—American Fertilizer Sept. 2 1916; p 32; pp 2; 25c.

Lodge, F. S.—*The Sampling of Fertilizers*. [Details of different methods in common use].—Amer. Fertilizer Oct. 14 1916; p 26; pp 3*; 25c.

Mansfield, G. R.—*A Reconnaissance for Phosphate in the Salt River Range, Wyoming*.—U. S. G. S. Bull. 620-O; pp 19*.

Phalen, W. C.—*The Conservation of Phosphate Rock in the United States*. [Published by permission of the U. S. G. S. A detailed description of the deposits and methods of operation in U. S.].—Bull. A. I. M. E. Nov. 1916; p 1901; pp 34*; 35c.

Phalen, W. C.—*The Conservation of Phosphate Rock in Tennessee*. [On the geology, nature and genesis of the deposits and methods of stripping and mining the deposits, with notes on production].—Res. of Tenn. Oct. 1916; p 193; pp 24*.

Phalen, W. C.; Hicks, W. B.—*Phosphate Rock in 1915*. [On the market, production, methods of making soluble phosphates and chemical tests for the minerals].—Min. Res. of U. S. II:18; pp 18.

Ries, Heinrich. — *Economic Geology*. [A brief review is made regarding the industry and occurrence of each mineral, including metals and non-metals].—John Wiley & Son; book; pp 856*; \$4.

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PART III.

TECHNOLOGY.

MINES AND MINING (a*).

CHAPTER XIII.

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and data on triangulation stations established].—U. S. G. S. Bull. 644-C; pp 60*.

McCullough, Ernest.—*Practical Surveying for Surveyors' Assistants, Vocational and High Schools*. [In a practical way what a surveyor is supposed to do, methods and surveying laws are explained].—Van Nostrand Co.; book; pp 400*; \$2.

Molesworth, Guilford L.—*Pocket Book of Engineering Formulae*. [Information on civil, mechanical and electrical engineering work].—Spon & Chamberlain, N. Y.; book; pp 936*; \$1.50.

Ower, Leslie H.—*Cyclometer Surveys*. [On the use of this instrument in making topographic surveys of large areas].—Proc. Aust. I. M. E. Sept. 1916; p 103; pp 11*; 50c.

Parsons, J. L.—*An Office Record System for Civil Engineers*. [Details of methods for filing surveys, literature, etc.].—Engg. & Cont. Nov. 29 1916; p 466; pp 4*; 20c.

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Sanner, F. C.—*Set-Over Tables for the Mine Transitman*.—Coal Age Aug. 26 1916; p 335; pp 1*; 20c.

Simmons, Theodore; Hanst, J. F.—*Dip and Strike Calculations*. [Graphical methods for determining].—E. & M. J. Aug. 5 1916; p 270; pp 1*; 25c.

Staley, Homer F.; Beecher, Milton F.—*Practical Handling of Iowa Clays with Application of Ceramic Principles*. [Methods of prospecting and testing the clay bodies are given, as well as descriptions of methods of manufacturing and properties of the burned product].—Iowa State College Bull. 43; pp 48*.

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Yaste, G. L.—*Care of Mine Maps*. [Notes the misuse of originals and states that it be eliminated by keeping tracings of them up to date].—Coal Age Aug. 5 1916; p 223; pp 1; 20c.

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— *Cost Records of Drafting and Engineering*. [Forms and descriptions of the same for the distributing and keeping of costs on different jobs].—Engg. & Cont. Nov. 29 1916; p 472; pp 2*; 20c.

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ORE RESERVES

Ball, Sydney H.; Thompson, L. S.—*The Southwest Virginia Lead-Zinc Deposits*. [The authors argue that the deposits were made by waters of magmatic origin].—E. & M. J. Oct. 21 1916; p 735; pp 2¼*; 25c.

Boulton, W. S.—*Geology and Petroleum Resources*. [Abst. from the presidential address to the Geological Section of the British Assn.].—Petro. World Oct. 1916; p 489; pp 2¼; 35c.

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sources of District VIII, Illinois. [Detailed description of the deposits and formation surrounding Danville].—State Geol. Surv. Bull 14; pp 68*.

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Wilson, A. W. G.—*On the Possibility of Producing Refined Copper in Canada*. [Published by permission of the Mines Branch, Ottawa, Ont. The deposits, reserves and refining of copper in Canada are discussed].—Canadian Mg. Jnl. Nov. 15 1916; p 529; pp 6½; 35c.

Yeatman, Pope.—*Mine of Chile Exploration Co., Chuquicamata, Chile*. [A paper read before the Pan-American Sci. Cong. The history, geology, reserves, power plant and testing of hydrometallurgical treatment of the ores are included].—Teniente Topics Aug. 1916; p 1; pp 18*; 35c.

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Alderson, Matt W.—*Mining Possibilities in Colombia, S. A.* [The author tells of his experience in drilling placer ground in Colombia].—Mg. World Aug. 12 1916; p 281; pp 2¼*; 10c.

Austin, W. R.—*Boulder Breaking at a Placer Mine, British Columbia*. [Hand feed hammer drills are used for this work].—Mine & Quarry; Oct. 1916; p 922; pp 2*; 20c.

Ayer, Frank.—*Reducing Air-Drill Re-*

pair Costs. [A general talk pointing out various ways by which this cost can be reduced].—E. & M. J. Nov. 11 1916; p 864; pp 2*; 25c.

Bacon, Raymond F.; Hamor, William A.—*The American Petroleum Industry.* [In Vol. I the history and geology, etc., regarding oil wells is taken up, while Vol. II is on refining of oil].—McGraw-Hill Co.; books; Vol. I pp 446*; Vol. II pp 517*; \$5 each.

Balcomb, J. C.—*A Remarkable Tunnel Rapidly Driven in Brazil.* [Gives details of operation, with drawings. A bonus system and unusual method of blasting are described].—Comp. Air July 1916; p 8040; pp 5*; 20c.

Ball, Sydney H.; Thompson, L. S.—*Spring-Steel Prospecting Bit.*—E. & M. J. Dec. 16 1916; p 1058; pp ¼*; 25c.

Bowles, Oliver.—*The Technology of Marble Quarrying.* [Takes up methods of operation and accounting, with a study of the mineralogical constituents of the rock which tend to vary its properties and grade].—U. S. Bur. of Mines Bull. 106; pp 174*; 40c.

Collins, V. B.—*Coal-Cutting by Machinery in the Newcastle and Maitland Districts, N. S. W.* [Machines operated by electricity and compressed air are described and discussed].—Northern Engg. Inst. of N. S. W. April Proc.; p 25; pp 30*; 50c.

Dixon, C. Y.—*Plant and Method of Dry Excavation, Livingstone Channel, Detroit River, Michigan.* [From Professional Memoirs. Pumping, drilling, costs, equipment used, etc., are included in this review].—Engg. & Cont. Nov. 15 1916; p 425; pp 2*; 25c.

Gillette, Halbert Powers.—*Handbook of Rock Excavation Methods and Costs.* [Details regarding the different methods used in rock excavation, as drilling, explosives, etc.].—Clark Book Co.; book; pp 835*; \$5.

Hicks, H. L.—*Compressed Air at Rockland Lake Quarry, New York.* [Describes drilling and blasting operations, with some information on the general operation of the quarry].—Comp. Air July 1916; p 8035; pp 4*; 20c.

Humphrey, D. E.—*Drilling and Blasting Shale Banks.* [Discusses several methods of drilling and blasting].—B. & C. Rec. Aug. 15 1916; p 319; pp 4½*; 35c.

Jackson, C.—*Rock Excavation in Coal Mines.* [Five types of drills are described, including electric and compressed air drills, the latter getting its air from a portable electrically driven compressor].

—Coal Age July 1 1916; p 32; pp 2¼*; 20c.

Johnson, R. H.; Huntley, L. G.—*Principles of Oil and Gas Production.* [Treats on the nature and genesis of the deposits, methods of drilling and prospecting, methods of operating and last an economic geological review of oil and gas].—Wiley & Sons; book; pp 371*; \$3.75.

Lewis, James O.; McMurray, W. F.—*The Use of Mud-Laden Fluid in Oil and Gas Wells.* [Describes the system and other methods of details in drilling for the purpose of stopping waste of gas in drilling for oil wells].—U. S. Bur. of Mines Bull. 134; pp 86*; 25c.

Parsons, L. A.—*Diamond Drilling at Sudbury, Ontario.* [Details of operation and costs].—E. & M. J. Aug. 26 1916; p 381; pp 1¼*; 25c.

Phelps, Charles C.—*Shanking Drill Steels.* [Explanatory drawings are shown].—E. & M. J. Aug. 26 1916; p 387; pp 3½*; 25c.

Rosback, E. J.—*Tunnel Construction on the Mill Creek Sewer.* [Methods of operating, drilling, compressed air equipment, lining with concrete and brick, etc., are among things described].—Mine & Quarry; Oct. 1916; p 907; pp 11*; 20c.

Sale, A. J.—*Drilling and Analysis of Copper Ores.* [A general discussion of errors made from taking average of churn-drill hole samples. Also speaks of the sulpho-cyanide assay of copper].—E. & M. J. July 8 1916; p 87; pp 3¼*; 25c.

Symons, S. W.—*Compressed-Air Coal Cutters in Canadian Mines.* [The drill is somewhat similar to the ordinary post rock drill].—Coal Age July 1 1916; p 28; pp 1¼*; 20c.

Taylor, W. G.—*Oil Well Motor Equipment.* [A paper read before the American Inst. of Elect. Eng. Gives the electrical power and equipment needed in drilling an oil well].—Jnl. of Elect. Power & Gas July 1 1916; p 6; pp 2½*; 35c.

Tillson, B. F.—*Hammer Drill Records at the Franklin Mines, New Jersey.* [Abst. of a paper read before the A. I. M. E. Considers drifting, raising and stoping separately and gives costs for each].—Engg. & Cont. Aug. 16 1916; p 163; pp 1¼*; 20c. Comp. Air Sept. 1916; p 8123; pp 2½*; 20c.

Warren, H. M.—*Electrical Distribution and Application in Mines.* [Speaks of the use of electricity for pumps, hoists, locomotives, drilling and air compression].—Coal Age July 22 1916; p 138; pp 4*; 20c.

Weston, E. M.—*Governing the Use of*

Explosives in Mines. [From "Practical Mining on the Rand." Treats on the use of explosives and correct method of placing holes].—Mg. World Aug. 26 1916; p 363; pp 2½*; 10c.

Young, George J.—*Elements of Mining.* [In an elementary way each different operation and department of mining is taken up, such as haulage, prospecting, blasting, drilling, etc.].—McGraw-Hill; book; pp 628*; \$5.

——— *Canadian Mining Corporation.* [Cost and other details of operation].—E. & M. J. Aug. 19 1916; p 348; pp 1¼; 25c.

——— *Method and General Cost of Rock Excavation for the Inlet Swamp Drainage District, Illinois.*—Engg. & Cont. Nov. 15 1916; p 429; pp ¾; 25c.

——— *New Safety Method for Drilling Tools.* [These tools have recently been invented with the idea of helping to prevent their loss in the hole].—Petro. World July 1916; p 313; pp 2*; 35c.

——— *New Under-Reamer Efficient.* [A device for use in oil-well drilling].—Oil Age Aug. 1916; p 9; pp 1½*; 35c.

——— *Recent Developments in Drilling Apparatus.* [Describes recent patents for equipment to be used with rock drills]. Mg. World Oct. 21 1916; p 705; pp 1¼; 10c.

——— *Russian Petroleum Company.* [Discusses operations for part of 1916, including profits, production and deep drilling].—Petro. World Sept. 1916; p 431; pp 3; 35c.

——— *Snake Creek Tunnel, Utah.* [A concrete tunnel. The construction and methods used in driving it are described].—M. & S. P. Aug. 5 1916; p 205; pp 2*; 20c.

SAMPLING

Burrell, G. A.; Robertson, I. W.; Oberfell, G. G.—*Black Damp in Mines.* [Deals with the occurrence of the gas, its effects on various things and methods of sampling].—U. S. Bur. of Mines Bull. 105; pp 88; 20c.

Gahl, Rudolf.—*History of the Flotation Process at Inspiration, Arizona.* [A paper read before the A. I. M. E. dealing in detail with the subject and equipment used].—Met. & Chem. Engg. Oct. 1 1916; p 393; pp 12½*; 35c.

Greaves-Walker, A. F.—*Testing Clay Properties.* [Deals with methods of sampling and determining the value of a clay deposit in the field].—B. & C. Rec. Dec. 19 1916; p 1083; pp 3*; 35c.

Hanchett, F. B.—*Daily Sampling in Square-Set Mining, Arizona.* [A method used in the Clifton-Morenci district, whereby the metal content of a set can be told before it is mined out].—Mg. World Dec. 2 1916; p 949; pp 1¼*; 10c.

Heidelberg, Fred M.—*A Portable Water Sampler.* [A device for sampling underground waters at the Copper Queen].—E. & M. J. Aug. 19 1916; p 343; pp 1¼*; 25c.

Herr, Irving.—*Sampling Placer-Gravel Deposits.* [Describes the system by which the holes were placed and method of plotting the same].—E. & M. J. Aug. 5 1916; p 261; pp ¾*; 25c.

Parr, S. W.—*Chemical Study of Illinois Coals.* [Methods of sampling in the field and laboratory are given, with a review of the results of analyses].—Ill. Geol. Surv. Bull. 3; pp 86*.

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Staley, Homer F.; Beecher, Milton F.—*Practical Handling of Iowa Clays with Application of Ceramic Principles.* [Methods of prospecting and testing the clay bodies are given, as well as descriptions of methods of manufacturing and properties of the burned product].—Iowa State College; Bull. 43; pp 48*.

Watts, A. S.—*The Feldspars of New England and North Appalachian States.* [Goes into the lithology of feldspar rocks in general and gives nature of deposits by states. Methods of testing for quality and concentration of rock are given].—U. S. Bur. of Mines Bull. 92; pp 181*; 35c.

Webber, Morton.—*Sampling of Mines.*—M. & S. P. Dec. 9 1916; p 846; pp ¾*; 20c.

EXPLOSIVES AND BLASTING

Balcomb, J. C.—*A Remarkable Tunnel Rapidly Driven in Brazil.* [Gives details of operation with drawings. A bonus system and unusual method of blasting are described].—Comp. Air July 1916; p 8040; pp 5*; 20c.

Brooks, E. F.—*The Prevention of Misfires.* [Speaks of the prevention as a means of curtailing higher costs and gives methods by which misfires may be stopped to some extent].—M. & S. P. Dec. 16 1916; p 871; pp 1; 20c.

Burrell, G. A.; Robertson, I. W.—*Effects of Temperature and Pressure on*

the Explosibility of Methane-Air Mixtures. [A review of the results of experimental work].—U. S. Bur. of Mines Tech. Paper 121; pp 14*; 15c.

Fay, Albert H.—*Monthly Statement of Coal Mine Fatalities in the United States.* [Contains a list of permissible explosives, lamps and motors tested prior to Aug. 31 1916].—Bur. of Mines Statement July 1916; pp 28.

Fay, Albert H.—*Production of Explosives in the United States.* [Also contains notes on coal mine accidents due to explosives and a list of permissible explosives, lamps and motors tested before May 1 1916].—U. S. Bureau of Mines Tech. Paper 159; pp 24; 15c.

Gillette, Halbert Powers.—*Handbook of Rock Excavation Methods and Costs.* [Details regarding the different methods used in rock excavation, as drilling, explosives, etc.].—Clark Book Co.; book; pp 835*; \$5.

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Higgins, E.—*Accidents from Mishfires and How to Prevent Them.* [Many causes of mishfires are taken up, important among which is the making of the primer].—Mg. World July 1 1916; p 17; pp 1*; 10c.

Humphrey, D. E.—*Drilling and Blasting Shale Banks.* [Discusses several methods of drilling and blasting].—B. & C. Rec. Aug. 15 1916; p 319; pp 4½*; 35c.

Johnson, J. E., Jr.—*Blast Furnace Irregularities and Their Treatment.* [Tells of remedies for and discusses many things unusual in furnace operation, such as a chilled hearth].—Met. & Chem. Engg. July 15 1916; p 69; pp 8*; 30c.

Knight, Thomas M.—*The Priming of Charges and Firing of Blasts.* [Diagrams are given illustrating the description].—Engg. & Cont. Dec. 30 1916; p 547; pp 1¼*; 25c.

Moore, H. W.—*Blasting Practice at Chuquicamata, Chile.* [A system of electric blasting. Tunnels are made and loaded with powder for the blasting of large blocks of ground].—M. & S. P. July 8 1916; p 60; pp 2*; 20c.

Taylor, Guy B.; Cope, W. C.—*Sensitivity to Detonation of Trinitrotoluene and Tetranitromethylanilin.* [Describes method and apparatus for making test with some results obtained].—U. S. Bur. of Mines Tech. Paper 145; pp 13; 15c.

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the Rand].—Mg. & Engg. Rev. June 5 1916; p 216; pp 4¼*; 35c.

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Weston, E. M.—*The Right Use of Explosives in Mining Work.* [Abst. from Practical Mining on the Rand].—Mg. World July 29 1916; p 189; pp 2; 10c.

Young, George J.—*Elements of Mining.* [Each of the departments of mine operations, as drilling, ventilation, etc., is considered briefly and separately, giving some details regarding the same].—McGraw-Hill; book; pp 628*; \$5.

——— *Coal Miners' Pocketbook.* [Gives rules, principles, formulas and tables].—McGraw-Hill Co.; book; pp 1172*; \$4.

——— *Method and General Cost of Rock Excavation for the Inlet Swamp Drainage District, Illinois.*—Engg. & Cont. Nov. 15 1916; p 429; pp ¾; 25c.

——— *The Use of Squibs Vs. Fuses.* [The results of a thorough study made by the British Government, bringing out that in general squibs are the safest and best].—Coal Age Sept. 23 1916; p 501; pp 1½; 20c.

SHAFTS AND SHAFT SINKING

Atkinson, H. J.—*Widening of the Upcast Shaft at Tinsley Park Colliery, England.* [A paper read before the Midland Inst. of Mg., Civil and Mech. Eng.].—I. & C. Tr. Rev. Oct. 6 1916; p 424; pp 1¼*; 35c. Coll'y Guard Oct. 6; p 651; pp 1*; 35c.

Buffum, F. D.—*Compressed Air for Sinking a Shaft.* [Abst. from Coal Age. Deals with methods of piping and handling the compressed air which was used entirely for power. Remedies for difficulties encountered are given].—Comp. Air July 1916; p 8048; pp 3*; 20c.

Cooper, Lloyd D.—*Sinking the Walenberg Shaft, Norway.* [The work was contracted for by E. J. Longyear Co. Operations and methods are described].—E. & M. J. Nov. 4 1916; p 811; pp 3*; 25c.

Futers, T. Campbell.—*The Mechanical Equipment of Cwm Colliery, Llantwit Fardre, South Wales.* [The hoist, shaft, steam and electric equipment at the mines are described].—Coll'y Guard. Dec. 1 1916; p 1055; pp 3*; 35c.

Hall, Albert E.—*Shaft Timbering Ex-*

amples. [Drawings and description of various methods of shaft timbering are given].—E. & M. J. Sept. 30 1916; p 589; pp 1¼*; 25c.

Lawrie, W. W.; Smith, G. H.—*Concrete Shaft Equipment at the Bantjes Consolidated Mines, South Africa*. [Details of construction, costs and labor are given].—Jnl. of Chem. Met. & Mg. Soc. of S. Afr. April 1916; p 202; pp 3¼*; 85c.

Miller, Benjamin Leroy; Singewald, J. T.—*The Gold Mines of Brasil*. [The two most noted mines are described. The power question, mining and refining of the ore are dealt with].—E. & M. J. July 29 1916; p 207; pp 5*; 25c.

Pleschner, O. J.—*Design for Auxiliary Shaft*. [This auxiliary hoist shaft does away with the necessity of detouring the air from the shaft around the passages leading to the other shaft compartments].—Coal Age Dec. 2 1916; p 915; pp 1½*; 20c.

Reifsnider, L. B.—*Underground Mining in Cuba*. [A method which does not interfere with operations above in surface mining. The stopes are filled after being worked out].—E. & M. J. Sept. 16 1916; p 509; pp 2¼*; 25c.

Rose, Hugh.—*Mining Practice at Santa Gertrudis, Mexico*. [Abst. from the A. I. M. E. Bulletin. Contains drawings, details and general description].—E. & M. J. Aug. 26 1916; p 371; pp 6*; 25c.

Rossback, E. J.—*Tunnel Construction on the Mill Creek Sewer*. [Methods of operating, drilling, compressed air equipment, lining with concrete and brick, etc., are among things described].—Mine & Quarry; Oct. 1916; p 907; pp 11*; 20c.

Sayre, E. A.—*Comparison of Two Methods of Shaft Sinking Through Soft Material*. [Abst. of a paper read before the A. I. M. E.].—Engg. & Cont. Sept. 20 1916; p 259; pp 5¼*; 20c.

Sayre, Edward A.—*Shaft Sinking Through Soft Material*. [Costs and methods of operation at an Iowa coal mine].—Bull. A. I. M. E. Sept. 1916; p 1523; pp 8*; 35c. Coll'y Guard. Oct. 13 1916; p 700; pp 1¼*; 35c. West. Engg. Dec. 1916; p 463; pp 2*; 25c.

Schmidt, Frederick.—*Shaft Sinking by the Freezing Process*. [A paper read before the Manchester Mining & Geol. Soc., England].—I. & C. Tr. Rev. June 23 1916; p 720; pp 1; 35c. Coll'y Guard. June 23; p 1189; pp 4*; 35c.

Scott, W. A.—*The Tonopah Extension Mines in Nevada*.—Mg. World Nov. 11 1916; p 831; pp 1; 10c.

Taylor, M. T.—*Deep-Lead and Drift Mining in Victoria, Australia*. [Describes methods and details of methods used in going underground for gravel].—Mg. Mag. Oct. 1916; p 207; pp 12*; 50c.

Thiele, H. G.—*Re-Timbering a Four-Compartment Shaft*. [Detailed drawings and description of the method].—M. & S. P. Oct. 14 1916; p 567; pp 2½*; 20c.

—*Carriden Coal Co.'s New Pits, England*. [Describes the formation and methods and equipment used in sinking its No. 1 and 2 shafts].—Coll'y Guard, Sept. 15 1916; p 497; pp 1½*; 35c.

—*Concreting the Sacramento Shaft, Bisbee, Arizona*. [Details of the construction, methods of doing the work and costs for materials and labor on the same are given].—M. & S. P. Oct. 7 1916; p 521; pp 8½*; 20c.

—*The Mount Morgan Mine and Works, Australia*. [Complete description of the geology, mining and concentrating plant of this mine, once a gold mine but now copper].—Mg. & Engg. Rev. July 5 1916; p 244; pp 9*; 35c.

LIGHTING

Balliet, Letson.—*Underground Electric Mine Lighting*. [Discusses this subject from the point of view that electric lights underground make possible more efficient operation].—Mg. World Dec. 23 1916; p 1072; pp 1; 10c.

Best, W.—*Ancient and Modern Construction of Miners' Safety Lamps*. [A paper read to the National Assn. of Coll'y Mng.].—I. & C. Tr. Rev. Nov. 24 1916; p 637; pp 1; 35c.

Bullard, E. W.—*Introduction of the Acetylene mine Lamp on the Pacific Coast*. [An account with some details on the introduction of this lamp].—Acetylene Jnl. Oct. 1916; p 185; pp 1½; 20c.

Fay, Albert H.—*Monthly Statement of Coal Mine Fatalities in the United States*. [Contains a list of permissible explosives, lamps and motors tested prior to Aug. 31 1916].—Bur. of Mines Statement July 1916; pp 28.

Gawthrop, L. B.—*Scientific Headlighting*. [On headlights for haulage motors].—Coal Age Sept. 2 1916; p 382; pp 1¼; 20c.

Koch, Richard.—*The Electric Safety Lamp*. [Figures on the cost of upkeep of these lamps].—Coal Age Oct. 7 1916; p 582; pp 1¼*; 20c.

Weigel, W. M.—*The Illuminating Power of Safety Lamps*.—Bull. A. I. M. E. Aug. 1916; p 1349; pp 11*; 35c.

Young, George J.—*Elements of Mining*. [In an elementary way each different operation and department of mining is taken up, such as haulage, prospecting, blasting, drilling, etc.].—McGraw-Hill; book; pp 628*; \$5.

——— *Cap Lamp with New Feature*. [An electric lamp with a straight filament passing horizontally across the reflector].—Coal Age Dec. 2 1916; p 918; pp 1¼*; 20c.

——— *Costs of Operating Electric Cap Lamps*.—Coal Age July 1 1916; p 17; pp ¾; 20c.

——— *G-E Miners' Lamp Approved by the U. S. Bureau of Mines*.—Mg. World Nov. 18 1916; p 869; pp 1¼*; 10c.

——— *History of the Carbide Mine Lamp from the Earliest Days to the Present Time*.—Acetylene Jnl. Dec. 1916; p 303; pp 1½*; 20c.

——— *Illumination*. [A general review of proper illumination with respect to safety on surfaces].—Anode Sept. 1916; p 1; pp 2; 20c.

——— *New Approved Safety Lamps*. [Brief descriptions of several styles].—I. & C. Tr. Rev. July 14 1916; p 38; pp 1*. Colly. Guard. July 14; p 64; pp 1*; 35c.

TELEPHONES AND SIGNALING

Clark, Walter C.—*Electricity at the Bunker Hill & Sullivan Mines, Idaho*. [On the equipment and use of electricity in the mills, rock house, for pumping, hoisting, haulage and signaling].—Jnl. Elect. Power & Gas Dec. 23 1916; p 483; pp ¾*; 35c.

Davis, W. H.—*Hoisting-Engine Signals*. [A paper read before the North of England Inst. of Mg. and Mech. Eng.].—Coal Age Aug. 26 1916; p 336; pp 1*; 20c.

Hall, Albert E.; McFeely, George.—*Bell and Buzzer Signal System*. [On the installation and operation of the system in connection with hoisting].—E. & M. J. Oct. 21 1916; p 746; pp 1¼*; 25c.

Parker, D. J.; Steidle, E.—*The Use of Signboards and Signals in Mines*. [Published by permission of the Bureau of Mines. A general talk on advantages found in using them].—Mg. World Nov. 18 1916; p 867; pp 2¼; 10c.

Walker, Sydney F.—*Electric Signaling with Bare Wires*. [A general talk on proper practice resulting from investigations in England].—I. & C. Tr. Rev. Sept. 8 1916; p 279; pp 1; 35c.

Wheeler, R. V.; Thornton, W. M.—

Electric Signaling with Bare Wires. [Report on the danger of ignition of inflammable gaseous mixtures by the break-flash of the signal wires].—His Majesty's Stationery Office, London; 35c.

——— *Electric Signalling in Collieries*.—I. C. Tr. Rev. Oct. 13 1916; p 453; pp 1*; 35c.

——— *Electric Signaling in Mines*.—Colly Guard. July 28 1916; p 157; pp 3*; 35c.

PUMPS AND PUMPING

Alderson, G. F.—*A Reservoir and Pumphouse*. [Describes the construction of the installation and itemization of costs].—E. & M. J. Sept. 23 1916; p 547; pp 1¼*; 25c.

Boardman, Charles S.—*Pumphouse Construction Under Severe Tidal Conditions*. [Description of the method and construction of the pumphouse of the Alaska Treadwell Co.].—E. & M. J. Dec. 9 1916; p 1018; pp 1¼*; 25c.

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Dixon, C. Y.—*Plant and Method of Dry Excavation, Livingstone Channel, Detroit River, Michigan*. [From Professional Memoirs. Pumping, drilling, costs, equipment used, etc., are included in this review].—Engg. & Cont. Nov. 15 1916; p 425; pp 2*; 25c.

Eddy, Lewis H.—*The Argonaut Mine, California*. [On the installation of a dam for storing tailings, power pumps and experimental work with flotation].—E. & M. J. Aug. 5 1916; p 265; pp 2¼*; 25c.

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Gochnauer, H. W.—*Pumping Costs with Diesel Engines*.—Engg. Rec. April 1 1916; 20c.

Heal, C.—*Colliery Pumping Plants*. [A paper read before the National Assn. of Colliery Managers, England].—I. & C. Tr. Rev. Aug. 18 1916; p 194; pp 1; 35c.

Hopwood, William.—*Mining and Dealing with Mine Water in the Mold Coalfield, England*. [A paper read before the National Assn. of Eng., England].—I. & C. Tr. Rev. Aug. 4 1916; p 127; pp 1½*; 35c.

Knowles, C. R.—*The Use of Oil Engines for Pumping*. [A paper read before the Illinois section of the American Water Works Assn. The results of a number of tests on different kinds of fuel are given].—Canadian Eng. June 29 1916; p 676; pp 2¼; 35c.

McEocid, D.—*The Selection of Centrifugal Pumps*. [From the Engineer, giving curves and formulas for the rapid calculation and requirements of pumps for any class of work].—Met. & Chem. Engg. Dec. 15 1916; p 679; pp 2*; 35c.

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Sargeant, E. W.—*Centrifugal Pumps and Dredgers*. [Confined mostly to the use and construction of these pumps as practiced in England].—Lippincott & Co.; book; pp 188*; \$3.25.

Sargeant, E. W.—*Centrifugal Pumps and Suction Dredges*. [Among the features of the book is the simple and non-technical manner in which all things are described].—Chas. Griffin & Co., London; book; pp 188*; \$3.

Scott, W. A.—*Leadville Pumping and Drainage Projects*. [Descriptions are given of methods used and plants at various places in the district which use different kinds of power, styles of pumps and methods of operation].—Mg. World Sept. 23 1916; p 533; pp 3¾*; 10c.

Scott, W. A.—*Operations of Silver King Coalition Mines Co., Utah*. [A general description of operations and equipment, including pumping and hoisting].—Mg. World Sept. 9 1916; p 447; pp 3*; 10c.

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Roszbach, E. J.—*Tunnel Construction on the Mill Creek Sewer*. [Methods of operating, drilling, compressed air equipment, lining with concrete and brick, etc., are among things described].—Mine & Quarry Oct. 1916; p 907; pp 11*; 20c.

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methods used in driving it are described].—M. & S. P. Aug. 5 1916; p 205; pp 2*; 20c.

—Winnipeg-Shoal Lake Aqueduct Construction. [Included in this detailed description are sketch drawings of the work, which is of reinforced concrete].—Canadian Eng. Nov. 16 1916; p 401; pp 5½*; 35c.

MINE WATERS

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Hopwood, William.—*Mining and Dealing with Mine Water in the Buckey Coal-field, England*. [A paper read before the National Assn. of Colliery Mgrs. Details are given of the methods used in this mine].—I. & C. Tr. Rev. Sept. 15 1916; p 314; pp 3*; 35c.

Newman, M. F.—*Methods of Softening and Filtering Mine Water*. [Describes a plant for filtering the water so as to make it suitable for use in boilers].—Mg. World Dec. 9 1916; p 985; pp 2¼*; 10c.

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Burrell, G. A.; Robertson, I. W.; Oberfell, G. G.—*Black Damp in Mines*. [Deals with the occurrence of the gas, its effects on various things and methods of sampling].—U. S. Bur. of Mines Bull. 105; pp 88; 20c.

Graham, Thomas.—*Gaseous Mines in the Crow's Nest Pass Coal Field, British Columbia*. [A paper read before the Mine Inspector's Inst., in which considerable is said of the mines of the district and methods of sampling the air].—Coal Age Dec. 2 1916; p 920; pp 3½*; 20c.

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Yuvnalieff, N.—*On the Liberation of Gas in Mines*. [From the Gorno-Savodskoie Delio, explaining the causes for the liberation of mine gases].—Coll'y Guard. July 7 1916; p 17; pp 1¼*; 35c.

VENTILATION

Buffum, F. D.—*Compressed Air for Sinking a Shaft*. [Abst. from Coal Age. Deals with methods of piping and handling the compressed air which was used entirely for power. Remedies for difficulties encountered are given].—Comp. Air July 1916; p 8048; pp 3*; 20c.

Chambers, G.—*The Atmospheric Problem in the Deepest Mine*. [Excerpts from the superintendent's report of the Morro Velho mine of the St. John del Rey Mining Co., Brazil, dealing with the ventilation of the mine].—Mg. World Sept. 30 1916; p 575; pp 2; 10c.

Crankshaw, H. M.—*Mining and Ventilation Methods in Thick Pitching Beds*. [A paper to be read at the A. I. M. E. Arizona meeting].—Coal Tr. Bull. Aug. 15 1916; p 23; pp 5*; 25c.

Crankshaw, H. M.—*Mining Methods Employed in the Anthracite Field*. [A description of the stratigraphy and details of methods of underground operation and mining].—Coal Age Sept. 1916; p 452; pp 4*; 20c.

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Graham, Thomas.—*The Coal Creek Collieries, British Columbia*. [Abstract of a paper read before the Mine Inspectors' Inst. in which special stress is given analysis of the air in the mine workings].—Coal Age Dec. 9 1916; p 964; pp 2¾*; 20c.

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Miller, Benjamin Leroy; Singewald, J. T.—*The Gold Mines of Brazil*. [The two most noted mines are described. The power question, mining and refining of the ore are dealt with].—E. & M. J. July 29 1916; p 207; pp 5*; 25c.

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[Speaks of the peculiarities of coal dust in this mine and methods employed to cope with it].—Bull. Canadian Mg. Inst. July 1916; p 647; pp 8; 35c.

Tally, Robert E.—*Mine-Fire Methods Employed by the United Verde Copper Co., Arizona*. [Causes, methods of prevention, ventilation and methods of handling a stope on fire are considered].—Bull. A. I. M. E. Sept. 1916; p 1545; pp 9*; 35c.

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— *Coal Miners' Pocketbook*. [Gives rules, principles, formulas and tables].—McGraw-Hill Co.; book; pp 1172*; \$4.

— *Equipment of the Valleyfield Colliery*. [Gives drawings and description of the steam-turbo and electric plants, besides a description of the coal washing plant and fan and boiler house].—Coll'y Guard. Nov. 17 1916; p 951; pp 2½*; 35c.

— *Queensland Mines Inspection*. [Labor, wages, accidents, ventilation, etc.].—Queen. Gov't Mg. Jnl. July 15 1916; p 329; pp 3; 35c.

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Crankshaw, H. M.—*Modern Methods of Mining and Ventilating Thick Pitching Beds*. [Confined to coal deposits. Details and drawings of the methods are

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Crankshaw, H. M.—*Mining Methods Employed in the Anthracite Field*. [A description of the stratigraphy and details of methods of underground operation and mining].—Coal Age Sept. 1916; p 452; pp 4*; Oct. 7 1916; p 570; pp 5¼*; 40c.

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Scott, David B.—*Stoping Methods of the Miami Copper Co., Arizona*. [On the methods of haulage and stoping used in extracting this large body. Several stoping methods are being used].—Bull. A. I. M. E. June 1916; p 1031; pp 17*; 35c.

Simpson, F. L. G.—*A Description of the Methods of Working Out the Pillars at the Mohpani Mines, India, by means of Packing and a Comparison of the Dry and Wet Systems of Packing*. [Seven methods are herein described].—Trans. Mg. & Geol. Inst. of India Oct. 1916; p 29; pp 20*; \$1.

Smith, Lowry.—*Penetration of Preservatives*. [From "Railway Maintenance Engineer." A table is given of specific data].—Wood-Preserving Sept. 1916; p 66; pp 2¼; 35c.

Tallant, J. D.—*Pillar Caving at the Braden Mine*. [Peculiarities of the method and its operation in this particular ground].—Teniente Topics June 1916; p 1; pp 6*; 35c.

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Wilson, Philip D.—*Comparison of Stoping Methods at Calumet & Arizona Mine*. [Abst. from the bulletin of the A. I. M. E. Description of methods used and comparison of costs and advantages].—M. & S. P. Aug. 26 1916; p 315; pp 3½*; 20c.

Wilson, P. D.—*Stoping in the Calumet & Arizona Mines, Bisbee, Arizona*. [Gives detail of procedure for systems used as square-setting, top-slicing, caving systems, etc.].—Bull. A. I. M. E. July 1916; p 1099; pp 19*; 35c.

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Young, George J.—*Elements of Mining*. [Each of the departments of mine operations, as drilling, ventilation, etc., is considered briefly and separately, giving some details regarding the same].—McGraw-Hill; book; pp 628*; \$5.

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Burch, H. K.—*The Inspiration Mine Plant*. [Abst. from a paper read before the A. I. M. E. Describes the equipment and methods used for handling the ore from the mine, both underground and on surface].—E. & M. J. Sept. 23 1916; p 537; pp 5¼*; 25c.

Burch, H. Kenyon; Whiting, M. A.—*Automatic Electric Hoist at the Inspiration Mine, Arizona*. [Abstract of a paper read before the A. I. M. E. The hoist is driven by motors which are automatically driven].—M. & S. P. Dec. 2 1916; p 801; pp 5¼*; 20c.

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England Inst. of Mg. and Mech. Eng.].—Coal Age Aug. 26 1916; p 336; pp 1*; 20c.

Eaton, S. Ford.—*Driving a 1,200-Ft. Raise*. [A 10 by 20-ft. raise advancing at from 68 to 128 ft. per month. Methods employed and reasons for using the same are given].—E. & M. J. Sept. 9 1916; p 461; pp 3¼*; 25c.

Futers, T. Campbell.—*The Mechanical Equipment of Cwm Colliery, Llantwit Fardre, South Wales*. [The hoist, shaft, steam and electric equipment at the mines are described].—Coll'y Guard. Dec. 1 1916; p 1055; pp 3*; 35c.

Higgins, Will C.—*Electric Hoisting Plant of the Eagle & Blue Bell Co., Utah*. [General description of the plant, compressor and mine workings].—S. L. Mg. Rev. Nov. 15 1916; p 15; pp 2*; 25c.

Hood, O. P.—*Safety in Hoisting and Slope Haulage*. [Published by permission of the U. S. Bureau of Mines. A talk and discussion on preventatives and accidents which have occurred].—Mg. World Nov. 11 1916; p 823; pp 1¼; 10c.

Hunner, H. H.—*Concrete Idler Stands*. [A type constructed and used at the Isabella mine, Palmer, Mich. Some costs of construction are given].—E. & M. J. July 22 1916; p 179; pp 1*; 25c.

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— *Coal Miners' Pocketbook*. [Gives rules, principles, formulas and tables].—McGraw-Hill Co.; book; pp 1172*; \$4.

— *Coedely Colliery, England*. [Describes the power plant and general surface equipment, with some details].—I. Tr. Rev. Dec. 8 1916; p 693; pp 3*; 35c.

— *Electric Winding in South Yorkshire Collieries, England*.—Coll'y Guard. Aug. 18 1916; p 301; pp 1¼*; 35c.

— *Hoist Recorder for Mine and Elevators*.—Mg. World Sept. 16 1916; p 501; pp 1*; 10c.

— *Koepe Winding at Plennmeller Colliery, England*.—I. & C. Tr. Rev. July 21 1916; p 65; pp 3*; 35c.

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— *Surface Plant at Brodsworth Main Colliery, England*. [Turbines using mixed pressure steam are used. Hoist, boilers, compressed air, etc., are described].—Coll'y Guard. Sept. 1 1916; p 401; pp 1½*; 35c.

DREDGING

Alderson, Matt. W.—*Minina Possibilities in Colombia, S. A.* [The author's experience in placer and vein operations for gold in that country].—Mg. World Aug. 26 1916; p 367; pp 2¼*; 10c.

Eakin, H. M.; Mertie, J. B.; Harrington, G. L.—*The Cosna-Nowitna and Ruby-Kuskokwim Regions, Alaska*. [The geology, geography and mineral resources of the country are first reviewed and followed by separate descriptions of the districts].—U. S. G. S. Bull. 642-H; pp 56*.

Eddy, Lewis H.—*Yuba No. 15 All-Steel Gold Dredge*. [A general detailed description of the dredge and its operation].—E. & M. J. Aug. 19 1916; p 329; pp 2*; 25c.

Jennings, Hennen.—*Dredging in Montana*. [From a U. S. G. S. bulletin giving costs of operation and construction of

dredges used].—M. & S. P. Sept. 23 1916; p 465; pp 2¼*; 20c.

Jennings, Hennen; Janin, Charles.—*The History and Development of Gold Dredging in Montana*. [Mostly on the Ruby district. One chapter is confined to placer mining methods and operating costs].—U. S. Bur. of Mines Bull. 121; pp 63*; 40c.

Payne, F. W.—*Dredging for Minerals*. [Deals with the past and present operation of dredges by different companies, pointing out causes for their failure and success].—Mg. & Engg. Rev. Oct. 5 1916; p 17; pp 1¾; 35c.

Payne, F. W.—*Dredging for Minerals: Past and Present*. [From the Mining & Engineering Review, dealing with the operation of various dredging projects of both the past and present in New Zealand, Australia, and the Malay States].—Mg. World Dec. 16 1916; p 1029; pp 1½; 10c.

Payne, Henry M.—*Mining the Frozen Gravels of the Arctic*. [A general account of operations, productions, etc., in Siberia].—Sibley Jnl. Oct. 1916; p 2; pp 4½*; 30c.

Payne, H. M.—*Mining the Frozen Gravels of Siberia and the Yukon*. [Details of methods used, results obtained and costs of carrying on operations].—Bull. Mg. & Met. Soc. of Amer. Sept. 30 1916; p 204; pp 11½; 35c.

Purington, C. W.; Smith, R. E.—*Winter Sluicing at the Lenskoi Gold Mines, Siberia*. [Describes the methods and plant used for handling the frozen gravel by thawing and treating at once. Mining, construction and other operating costs are given].—Mg. Mag. Sept. 1916; p 143; pp 9*; 50c.

Sargeant, E. W.—*Centrifugal Pumps and Dredgers*. [Confined mostly to the use and construction of these pumps as practiced in England].—Lippincott & Co.; book; pp 188*; \$3.25.

Sargeant, E. W.—*Centrifugal Pumps and Suction Dredges*. [Among the features of the book is the simple and non-technical manner in which all things are described].—Chas. Griffin & Co., London; book; pp 188*; \$3.

Sibley, Robert.—*The Most Powerful Dredge Afloat*. [The dredge is in California and is electrically operated].—Jnl. of Elect., Power & Gas Nov. 11 1916; p 371; pp 3¼*; 35c.

Smith, Howard D.—*Gold Saving on Dredges*. [Results are tabulated and drawings of jigs, etc., used in saving the gold from the dredged gravel are shown].

—M. & S. P. Aug. 5 1916; p 202; pp 2¼*; 20c.

Smith, Sumner S.—*The Cache Creek Dredge, Alaska*. [Describes the dredge, its fuel question and the handling of the gravel from the dredge in recovering the gold].—M. & S. P. Dec. 23 1916; p 908; pp 2*; 20c.

Weeks, Walter S.—*The Launching of the Yuba No. 16 Dredge, California*.—M. & S. P. Dec. 16 1916; p 872; pp 2*; 20c.

Young, George J.—*Elements of Mining*. [In an elementary way each different operation and department of mining is taken up, such as haulage, prospecting, blasting, drilling, etc.].—McGraw-Hill; book; pp 628*; \$5.

Young, Ralph A.—*Testing of Dredge Bucket Pins*. [On the use of carbon-steel instead of more expensive alloyed steels].—E. & M. J. Aug. 26 1916; p 377; pp 2¼*; 25c.

—*Gold Dredge at Hammonton, California*. [Reported as the largest ladder dredging bucket constructed].—Engg. Rec. June 24 1916; p 20c.

—*Gold Dredging in Yukon*. [Abstract of a paper published by the Minister of Interior, Canada. The doings and equipment of operating companies in the district are reviewed].—Canadian Mg. Jnl. Nov. 15 1916; p 535; pp 10¼*; 35c.

—*Method and General Cost of Rock Excavation for the Inlet Swamp Drainage District, Illinois*.—Engg. & Cont. Nov. 15 1916; p 429; pp ¾; 25c.

—*Placer Mining in Yukon, Methods and Costs of*. [Extract of a report published by the Minister of Interior, Ottawa, Ont.].—Canadian Mg. Jnl. Nov. 1 1916; p 506; pp 3¾; 35c.

POWER SHOVELS AND EXCAVATORS

Brantly, J. E.—*A Report on the Limestones and Marls of the Coastal Plain of Georgia*. [The geology of the formation and descriptions of deposits by counties. The uses and preparation of the rock are also given].—Georgia Geol. Surv. Bull. No. 21; pp 300*.

Dixon, C. Y.—*Plant and Method of Dry Excavation, Livingstone Channel, Detroit River, Michigan*. [From Professional Memoirs. Pumping, drilling, costs, equipment used, etc., are included in this review].—Engg. & Cont. Nov. 15 1916; p 425; pp 2*; 25c.

Phalen, W. C.—*The Conservation of Phosphate Rock in Tennessee*. [On the geology, nature and genesis of the de-

posits and methods of stripping and mining the deposits, with notes on production].—Res. of Tenn. Oct. 1916; p 193; pp 24*.

—Hulett Unloader as Applied to the Handling of Copper Ore. [An excavator to handle the leached sands from the tanks at the plant of the New Cornelia Copper Co., Ariz.].—Mg. World Dec. 2 1916; p 951; pp 1*; 10c.

—Modern Gravel Excavation. [A description of the operations of the John B. Rose Co.'s plant and gravel pit at Marlboro, N. Y.].—Excavating Eng. Dec. 1916; p 91; pp 2½*; 20c.

—Ray Consolidated Copper Co., Developing the Property with an Electric Dragline Excavator. [Describes an electrically operated dragline excavator mounted on caterpillars at Hayden, Ariz.].—Excavating Eng. Dec. 1916; p 95; pp 3½*; 20c.

—The Plant of the Dolomite Products Co., Narlo, Ohio. [The plant description includes excavating in the open-pit, on surface and haulage of the broken materials].—Excavating Eng. July 1916; p 371; pp 4*; 20c.

HYDRAULIC MINING

Barnes, Alfred A.—*Hydraulic Flow Reviewed*. [Gives formulas, etc., and is confined mostly to theory as applied to practice].—Spon & Chamberlain, N. Y.; book; pp 152*; \$4.50.

Brown, G. Chester.—*Mines and Mineral Resources of Shasta, Siskiyou and Trinity Counties, California*. [Copper and gold are the principal minerals, though many others occur in the district].—Calif. Mg. Bur.; pp 192*.

Eakin, H. M.; Mertie, J. B.; Harrington, G. L.—*The Cosna-Nowitna and Ruby-Kuskokwim Regions, Alaska*. [The geology, geography and mineral resources of the country are first reviewed and followed by separate descriptions of the districts].—U. S. G. S. Bull. 642-H; pp 56*.

Scobey, Fred C.—*The Flow of Water in Wood-Stage Pipe*. [Tables, curves and text on the practical theory and formulas used in connection with wood piping and a discussion of the adaptability of wood pipe].—U. S. Dept. of Agr. Bull. 376; pp 96*.

—Placer Mining in Yukon, Methods and Costs of. [Extract of a report published by the Minister of Interior, Ottawa, Ont.].—Canadian Mg. Jul. Nov. 1 1916; p 506; pp 3¾; 35c.

MINING COSTS

Arnold, C. E.—*Cost and Extraction in the Selection of a Mining Method*. [Costs of various operations and systems are discussed].—Bull. A. I. M. E. Sept. 1916; p 1519; pp 4*; 35c.

Ayer, Frank.—*Reducing Air-Drill Repair Costs*. [A general talk pointing out various ways by which this cost can be reduced].—E. & M. J. Nov. 11 1916; p 864; pp 2*; 25c.

Bacon, Raymond F.; Hamor, William A.—*The American Petroleum Industry*. [In Vol. I the history and geology, etc., regarding oil wells is taken up, while Vol. II is on refining of oil].—McGraw-Hill Co.; books; Vol. 1 pp 446*; Vol. II pp 517*; \$5 each.

Bain, H. Foster.—*Labor Problems in African Mines*. [A discussion of labor, its comparative costs, with mine production, and a general description, with respect to their ways and character].—Mg. Mag. Sept. 1916; p 135; pp 8*; 50c.

Balcomb, J. C.—*A Remarkable Tunnel Rapidly Driven in Brazil*. [Gives details of operation with drawings. A bonus system and unusual method of blasting are described].—Comp. Air July 1916; p 8040; pp 5*; 20c.

Brennan, Thomas.—*Good Results Obtained in the Pittsburgh Seam*. [A system of room and pillar mining in western Pennsylvania. Points on track laying and mining costs are also given].—Coal Age Dec. 23 1916; p 1038; pp 2; 20c.

Clapp, W. Howard.—*Economics and Costs of Motor Truck Operation*. [A paper read before the Amer. Soc. of Mech. Eng. The costs of trucks and various details in the cost of their operation is given].—Canadian Eng. Nov. 9 1916; p 383; pp 3¾*; 35c.

Cook, Paul R.—*Cyaniding Clayey Ore at the Buckhorn Gold Mine, Nevada*. [Crushing, cyaniding, and details of mining and milling costs per ton are considered].—Bull. A. I. M. E. Sept. 1916; p 1555; pp 9*; 35c.

Cole, Arthur A.—*The Mining Industry in that Part of Northern Ontario Served by the T. & N. O. Railway*. [Covers the camps of Cobalt and Porcupine, with respect to their production, activities, profits and costs].—T. & N. O. Commission, Toronto; Report; pp 7*.

Davies, R. S.—*Hydraulic Packing at Ballarpur Colliery, India*. [Costs and details of operation are given].—Trans. Mg. & Geol. Inst. of India Sept. 1916; p 53; pp 10; \$1.25.

Dixon, C. Y.—*Plant and Method of Dry*

Excavation, Livingstone Channel, Detroit River, Michigan. [From Professional Memoirs. Pumping, drilling, costs, equipment used, etc., are included in this review].—Engg. & Cont. Nov. 15 1916; p 425; pp 2*; 25c.

French, Harold.—*Prospecting: A Suggestion.* [Describes a theoretical method of systematic prospecting for a syndicate].—M. & S. P. July 22 1916; p 117; pp 1½; 20c.

Gillette, Halbert Powers.—*Handbook of Rock Excavation Methods and Costs.* [Details regarding the different methods used in rock excavation, as drilling, explosives, etc.].—Clark Book Co.; book; pp 835*; \$5.

Green, R.—*Horse Haulage vs. Compressed Air Haulage at Collieries.* [In discussing the subject a comparison of actual costs is made].—Canadian Mg. Inst. Bull. Aug. 1916; p 711; pp 6; 35c. Comp. Air Sept. 1916; p 8116; pp 2; 20c. Mg. World Oct. 7 1916; p 625; pp 1¼; 10c.

Gudgeon, C. W.—*The Scheelite Gold Mines of Otago, New Zealand.* [Several properties are described. In each the ore body, milling process and milling and mining costs are dealt with].—Proc. Aus. Inst. M. E. No. 21 1916; p 37; pp 14*; 65c.

Hunner, H. H.—*Concrete Idler Stands.* [A type constructed and used at the Isabella mine, Palmer, Mich. Some costs of construction are given].—E. & M. J. July 22 1916; p 179; pp 1*; 25c.

Jennings, Hennen; Janin, Charles.—*The History and Development of Gold Dredging in Montana.* [Mostly on the Ruby district. One chapter is confined to placer mining methods and operating costs].—U. S. Bur. of Mines Bull. 121; pp 63*; 40c.

Jennings, Hennen.—*Dredging in Montana.* [From a U. S. G. S. Bulletin, giving the costs of operation and construction of dredges used].—M. & S. P. Sept. 23 1916; p 465; pp 2½*; 20c.

Larson, A. G.; Lakes, Arthur, Jr.—*Slocan Star Mine, British Columbia.* [Abstract of a report made by the authors on this mine, in which details regarding it are given].—Mg. & Engg. Rec. Oct. 1916; p 96; pp 4¼*; 35c.

Lawrie, W. W.; Smith, G. H.—*Concrete Shaft Equipment at the Bantjes Consolidated Mines, South Africa.* [Details of construction, costs and labor are given].—Jnl. of Chem. Met. & Mg. Soc. of S. Afr. April 1916; p 202; pp 3½*; 85c.

Lewis, Robert S.—*Amortization and Depreciation.* Deals with methods for

computing the same and states that omission of the same in computing costs is a great mistake, which is often made].—M. & S. P. Sept. 23 1916; p 456; pp 3*; 20c.

Mathews, P. L.—*Making a Cost Profile.* [Method for plotting costs in curve form].—Coal Age Nov. 4 1916; p 751; pp 1¾*; 20c.

McDonald, P. B.—*Mining Around Lovelock, Nevada.* [Costs and accounts of the silver properties in the district, with some information on their production is given. The principal companies are Rochester and Seven Troughs Coalition].—M. & S. P. July 1 1916; p 14; pp 2*; 20c.

McGrath, J. W.—*The Iron Mines of Wabana, Newfoundland.* [Describes the geology, nature of the ores, disposal of the same and mining costs].—Canadian Mg. Jnl. July 1 1916; p 315; pp 2¾; 35c.

Murray, R. M.—*Mining Methods at Mount Lyell, Australia.* [Abst. of a paper read before the Aust. I. of M. E., describing the method of stoping the large body].—E. & M. J. Sept. 2 1916; p 416; pp 3¼*; 25c.

Parsons, L. A.—*Diamond Drilling at Sudbury, Ontario.* [Details of operation and costs].—E. & M. J. Aug. 26 1916; p 381; pp 1¾; 25c.

Payne, H. M.—*Mining the Frozen Gravels of Siberia and the Yukon.* [Details of methods used, results obtained and costs of carrying on operations].—Bull. Mg. & Met. Soc. of Amer. Sept. 30 1916; p 204; pp 11½; 35c.

Purington, C. W.; Smith, R. E.—*Winter Shuicing at the Lenskoi Gold Mines, Siberia.* [Describes the methods and plant used for handling the frozen gravel by thawing and treating at once. Mining construction and other operating costs are given].—Mg. Mag. Sept. 1916; p 143; pp 9*; 50c.

Reifsnieder, L. B.—*Underground Mining in Cuba.* [A method which does not interfere with operations above in surface mining. The stopes are filled after being worked out].—E. & M. J. Sept. 16 1916; p 509; pp 2¾*; 25c.

Rickard, T. A.—*Reopening of Old Mines Along the Mother Lode, California.* [A review of conditions past and present, with cost and production figures given].—M. & S. P. Aug. 12 1916; p 236; pp 5½*; 20c.

Rose, Hugh.—*Mining and Milling Practice at Santa Gertrudis, Pachuca, Mexico.* [A complete detailed description with drawings].—Bull. A. I. M. E. Aug. 1916; p 1295; pp 38*; 35c.

Rose, Hugh.—*Mining Practice at Santa Gertrudis, Mexico*. [Abst. from the A. I. M. E. Bulletin. Contains drawings, details and general description].—E. & M. J. Aug. 26 1916; p 371; pp 6*; 25c.

Sayre, Edward A.—*Shaft Sinking Through Soft Material*. [Costs and methods of operation at an Iowa coal mine].—Bull. A. I. M. E. Sept. 1916; p 1523; pp 8*; 35c. West. Engg. Dec. 1916; p 463; pp 2*; 25c.

Scott, Herbert K.—*Manganese Ores of the Bukovina, Austria*. [A concise but complete description of the country, the ores, geology, methods of handling and preparing and costs of the same].—Iron & Steel Inst. Adv. Copy 5; pp 20*; 50c. I. & C. Tr. Rev. Sept. 22 1916; p 342; pp 2¼*; 35c. E. & M. J. Nov. 25 1916; p 935; pp 3; 25c.

Simpson, F. L. G.—*A Description of the Methods of Working Out the Pillars at the Mohpani Mines, India, by means of Packing and a Comparison of the Dry and Wet Systems of Packing*. [Seven methods are herein described].—Trans. Mg. & Geol. Inst. of India Oct. 1916; p 29; pp 20*; \$1.

Singewald, Joseph T., Jr.; Miller, Benjamin.—*High-Grade Manganese Ores of Brazil*. [Excerpts from an article in Iron Age. A general description of the several deposits, mining and transportation costs and production are given].—Pan-American Union Bull. Nov. 1916; p 601; pp 5½*; 35c.

Staley, Homer F.; Beecher, Milton F.—*Practical Handling of Iowa Clays with Application of Ceramic Principles*. [Methods of prospecting and testing the clay bodies are given, as well as descriptions of methods of manufacturing and properties of the burned product].—Iowa State College Bull. 43 pp 48*.

Tallant, J. D.—*Pillar Caving at the Braden Mines, Chile*. [A general description of the system and costs of operating].—Teniente Topics July 1916; p 13; pp 3*; 35c.

Tillson, B. F.—*Hammer Drill Records at the Franklin Mines, New Jersey*. [Abst. of a paper read before the A. I. M. E. Considers drifting, raising and stoping separately and gives costs for each].—Engg. & Cont. Aug. 16 1916; p 163; pp 1¼; 20c. Comp. Air Sept. 1916; p 8123; pp 2½; 20c.

Wagner, William.—*Coeur d'Alene Mining Information*. [Financial statements of the larger companies are given and production and value thereof for the smaller ones. Brief separate accounts of each company in the district are also given].—Wagner, Wallace, Ida.; book; pp 174; \$4.

en].—Wagner, Wallace, Ida.; book; pp 174; \$4.

Williams, R. Y.—*Mine Ventilation Stoppings*. [Costs of construction and maintaining are given, with methods of constructing the stoppings, with special reference to Illinois fields].—U. S. Bur. of Mines Bull. 99; pp 30*; 20c.

Wilson, Alfred W. G.—*Report on the Production of Spelter in Canada in 1916*. [Considerable miscellaneous information relative to zinc mining and smelting is given, besides production of the metal. Labor, mining and smelting costs are also given in some detail].—Canada Dept. of Mines, Mines Branch Report 428; pp 60.

Wilson, Philip D.—*Comparison of Stopping Methods at Calumet & Arizona Mine*. [Abst. from the bulletin of the A. I. M. E. Description of methods used and comparisons of costs and advantages].—M. & S. P. Aug. 26 1916; p 315; pp 3½*; 20c.

Wilson, P. D.—*Stopping in the Calumet & Arizona Mines, Bisbee, Arizona*. [Gives detail of procedure for systems used as square-setting, top-slicing, caving systems, etc.].—Bull. A. I. M. E. July 1916; p 1099; pp 19*; 35c.

— *Accounting and Engineering Show Results*. [Argues that the accounting, executive and engineering departments should work in harmony].—Coal Age July 15 1916; p 104; pp 2¼; 20c.

— *Argentine Oil Industry Reconstituted*. [On laws, costs of operation, etc.].—Petro. World Oct. 1916; p 479; pp 1¼; 35c.

— *Britannia Mining and Smelting Co., Ltd., Howe Sound, B. C.* [Reprint of a company balance sheet and report closed Jan. 1 1916].—Canadian Mg. Jnl. July 1 1916; p 323; pp 3¼; 35c.

— *Canadian Mining Corporation*. [Cost and other details of operation].—E. & M. J. Aug. 19 1916; p 348; pp 1¼; 25c.

— *Concreting the Sacramento Shaft, Bisbee, Arizona*. [Details of the construction, methods of doing the work and costs for materials and labor on the same are given].—M. & S. P. Oct. 7 1916; p 521; pp 8½*; 20c.

— *Consolidation of the Treadwell Mines, Alaska*. [Operating costs, production, description of the company's holdings, etc., and items of financial interest are given].—M. & S. P. Aug. 26 1916; p 307; pp 7*; 20c.

— *Cost and Extraction in the Selection of a Mining Method*. [Discussion of a previously read paper].—A. I. M. E. Bull. Dec. 1916; p 2180; pp 1¼; 35c.

— *Costs of Operating Electric Cap Lamps.*—Coal Age July 1 1916; p 17; pp ¾; 20c.

— *Gold Mining in War Time.* [A review of the conditions, prices and taxes in West Australia].—Monthly Jnl. Chamber of Mines West Aust. June 30 1916; p 108; pp 4½; 35c.

— *Iowa State Mine Inspectors' Report for the Biennial Period Ending Dec. 31, 1915.* Reviews operations by counties, giving mine production and new equipment installed at mines, with accidents in the district in tabulated form].—State Mg. Bur. Report; pp 112.

— *Method and General Cost of Rock Excavation for the Inlet Swamp Drainage District, Illinois.*—Engg. & Cont. Nov. 15 1916; p 429; pp ¾; 25c.

— *Placer Mining in Yukon, Methods and Costs of.* [Extract of a report published by the Minister of Interior, Ottawa, Ont.].—Canadian Mg. Jnl. Nov. 1 1916; p 506; pp ¾; 35c.

— *Transvaal Chamber of Mines August Analysis of Gold Production.* [Tonnage, yield, working costs, profits, dividends, etc., are given separately in tabulated form for each company].—Transvaal Chamber of Mines Aug. Report; pp 6.

MINING MISCELLANY

Ball, Sydney H.—*The Lead Mines of Washington County, Missouri.* [A brief description of the geology of the deposits and operations and methods of working the deposits].—M. & S. P. Dec. 2 1916; p 807; pp ¾; 20c.

Bristol, J. J.—*Reduction of Stope Contours.* [The apparatus described accomplishes the result in one operation and is a plain pantograph for reduction, with a cosine pantograph attached thereto].—E. & M. J. Dec. 16 1916; p 1053; pp 4*; 25c.

Campbell, F. W.—*Working Over an Old Mine.* [A system being used by the Nay Aug Coal Co., Dunmore, Pa., by which it is mining ground mined and partially robbed already].—Coal Age Dec. 2 1916; p 924; pp 1¾; 20c.

Crankshaw, H. M.—*Modern Methods of Mining and Ventilating Thick Pitching Beds.* [Confined to coal deposits. Details and drawings of the methods are shown].—Bull. A. I. M. E. July 1916; p 1159; pp 11*; 35c.

Davies, R. S.—*Hydraulic Packing at Ballarpur Colliery, Central Provinces.* [From the transactions of the Mg. and Geol. Inst. of India].—Coll'y Guard. Nov. 3 1916; p 856; pp 1*; 35c.

Dewell, Henry D.—*Timber Framing.* [Various methods of splicing and descriptions of different types of timber trusses are given].—West. Engg. Dec. 1916; p 455; pp 7*; 25c.

Dickerman, Nelson.—*Buying Supplies for a Mine.*—M. & S. P. Sept. 2 1916; p 350; pp 2½; 20c.

Eaton, S. Ford.—*Driving a 1200-Ft. Raise.* [A 10 by 20-ft. raise advancing at from 68 to 128 ft. per month. Methods employed and reasons for using the same are given].—E. & M. J. Sept. 9 1916; p 461; pp ¾; 25c.

Finlay, James R.—*The Problem of Efficiency.* [An address before the Colorado School of Mines].—M. & S. P. Aug. 12 1916; p 231; pp 3; 20c.

Guignon, F. A.—*The Valuation of Bedded Mineral Land.* [Formulas for figuring the value when the mineral is being used, where it is not being used, where mineral is used and land has surface value and where mineral is not being used, but surface has value].—E. & M. J. Dec. 2 1916; p 969; pp 2½; 25c.

Hidgkinson, H. H.—*Mining Ore from Pillars.* [A method used by the New Jersey Zinc Co. It is a combination where top-slicing is begun at the bottom of the body and raised from level to level by shrinkage stoping].—E. & M. J. July 29 1916; p 217; pp 2½; 25c.

Hoffman, F. L.—*Mining Hazards on the Pacific Coast.* [States that the fatality rate here is excessively high].—Mg. Cong. Jnl. Oct. 1916; p 172; pp 11; 35c.

Jackman, A. N.—*Russian Mines.* [A handbook of mining concessions worked by British interests in Siberia].—Financial Times, London; book; 50c.

Jorgensen, F. F.—*Air Pressure Mine Sprinkling Car.* [Drawings are shown with a description of its construction and operation].—Comp. Air Nov. 1916; p 8179; pp 1½; 20c.

Jorgensen, F. F.—*Sprinkling Car for Mine Use.* [This tank car is designed so that the spray may be thrown in any direction].—Coal Age Oct. 7 1916; p 584; pp 1*; 20c.

Latimer, J. W.—*The Roofing of Mine Buildings.* [Abst. of a paper read before the West Virginia Coal Mining Inst.].—Coal Age Aug. 5 1916; p 226; pp 1½; 20c.

Manning, Van H.—*What Can Uniform Mining Laws Hope to Accomplish.* [A paper read before the American Mg. Cong., Chicago].—E. & M. J. Dec. 2 1916; p 973; pp ¾; 25c. M. & S. P. Dec. 2 1916; p 796; pp 5; 20c.

Miller, Benjamin L.; Singewald, Joseph T., Jr.—*Conditions Governing Mining in South America*. [From Teniente Topics in which a general review of operations in South American countries is given and conditions controlling the same are brought out].—Mg. World Sept. 23 1916; p 541; pp 1½; 10c.

Murray, R. M.—*Mining Methods at Mount Lyell, Australia*. [Abst. of a paper read before the Aust. I. of M. E., describing the method of stoping the large body].—E. & M. J. Sept. 2 1916; p 416; pp ¾*; 25c.

Reifsneider, L. B.—*Underground Mining in Cuba*. [A method which does not interfere with operations above in surface mining. The stopes are filled after being worked out].—E. & M. J. Sept. 16 1916; p 509; pp 2¾*; 25c.

Robertson, J. A. T.—*An Engineer's Travels in Western China*. [A geographic review of the province of Sze-chuan, China, as related to the mining industries of the province, which are in their primitive stages still].—Mg. Mag. Nov. 1916; p 267; pp 13*; 50c.

Scott, David B.—*Stoping Methods of the Miami Copper Co., Arizona*. On the methods of haulage and stoping used in extracting this large body. Several stoping methods are being used].—Bull. A. I. M. E. June 1916; p 1081; pp 17*; 35c.

Scott, Herbert K.—*Manganese Ores of Bulkowina*. [A paper read before the Iron and Steel Inst., London. Geology of the deposits, methods of mining, mining costs and selling prices and grades of the ore are among items considered].—E. & M. J. Nov. 25 1916; p 935; pp 3; 25c.

Simpson, F. L. G.—*A Description of the Methods of Working Out the Pillars at the Mohpani Mines, India, by Means of Packing and a Comparison of the Dry and Wet Systems of Packing*. [Seven methods are herein described].—Trans. Mg. & Geol. Inst. of India Oct. 1916; p 29; pp 20*; \$1.

Tally, Robert E.—*Mine-Fire Methods Employed by the United Verde Copper Co., Arizona*. [Causes, methods of prevention, ventilation and methods of handling a stope on fire are considered].—Bull. A. I. M. E. Sept. 1916; p 1545; pp 9*; 35c.

Weimbren, M.—*Method of Removing Broken Ore from Flat Stopes*. [Abst. from the Jnl. of the Chem. Met. & Mg. Soc. of South Africa].—Mg. World Aug. 26 1916; p 362; pp ¾*; 10c.

Wilson, P. D.—*Stoping in the Calumet & Arizona Mines, Bisbee, Arizona*. [Gives detail of procedure for systems used as square-setting, top-slicing, caving systems, etc.].—Bull. A. I. M. E. July 1916; p 1099; pp 19*; 35c. M. & S. P. Aug. 26 1916; p 315; pp 3½*; 20c.

Young, G. J.—*Nomenclature of Mining Methods*. [The names commonly used for different mining methods are classified and a description is given of the systems named by terms of common usage].—E. & M. J. July 22 1916; p 175; pp 3*; 25c.

——— *Conversion Table for the Valuation of Ores, Minerals and Metals*. [A table for converting various English money values into the corresponding U. S. currency value].—Mg. Mag. Sept. 1916; p 152; pp 4; 50c.

——— *Cost and Extraction in the Selection of a Mining Method*. [Discussion of a previously read paper].—A. I. M. E. Bull. Dec. 1916; p 2180; pp 1½; 35c.

——— *Economies for Small Mines*.—S. Afr. Engg. Sept. 1916; p 46; pp 1¼; 35c.

——— *Mine Fire Methods Employed by the United Verde Copper Co.* [Discussion of a paper by R. E. Tally, telling considerable of methods used in the mines of the Anaconda Copper Co.].—A. I. M. E. Bull. Dec. 1916; p 2173; pp 7½; 35c.

——— *When Machines are Soldiering*. [Treats on the care and use of machinery].—Coal Age Sept. 2 1916; p 386; pp 1¼; 20c.

MINES AND MINING (b.*)

CHAPTER XIV

TRANSPORT AND HAULAGE

Transport

Brown, J. F. Kellock.—*Damascus Steel from Mount Lebanon Iron Ore*. [The geology, transportation and nature of the ores in these remote and ancient mines of Palestine are briefly described].—E. & M. J. Dec. 23 1916; p 1085; pp 1¼*; 25c.

Burch, H. K.—*The Inspiration Mine Plant*. [Abst. from a paper read before the A. I. M. E. Describes the equipment and methods used for handling the ore from the mine, both underground and on surface].—E. & M. J. Sept. 23 1916; p 537; pp 5¼*; 25c.

Capron, W. C.; Kuzell, C. R.—*Metalurgical Works Tramways*. [Reviews and discusses the use of different types of locomotives used about smelters and in some cases gives cost data on their operation].—E. & M. J. Oct. 7 1916; p 613; pp 8*; 25c.

Clapp, W. H.—*Motor Truck Development and Use in Southern California*. [A very complete table is given showing the cost of operating gasoline motor trucks at various mileages].—Mg. & Oil Bull. Sept. 1916; p 222; pp 6; 25c.

Clapp, W. Howard.—*Economics and Costs of Motor Truck Operation*. [A paper read before the Amer. Soc. of Mech. Eng. The costs of trucks and various details in the cost of their operation is given].—Canadian Eng. Nov. 9 1916; p 383; pp 3¼*; 35c.

Duran, Miguel.—*Estudio del Plan de Ferrocarriles Mineros de Asturias*. [A study of the railroads applied to mining in Austria].—Revista Minera June 16 1916; p 293; pp 2; 35c.

Eddy, L. H.—*Sonoma Magnesite Mines, California*. [Describes the development, transportation and calcining of the ores for shipment].—E. & M. J. July 29 1916; p 225; pp 2*; 25c.

Gillette, Halbert Powers.—*Handbook of Rock Excavation Methods and Costs*. [Details regarding the different methods used in rock excavation, as drilling, explosives, etc.].—Clark Book Co.; book; pp 835*; \$5.

Green, Raoul.—*Actual Costs of Mine*

Haulage by Horses and by Compressed Air. [A paper read before the Canadian Mg. Inst., giving actual costs under varying conditions].—Mg. World Oct. 7 1916; p 625; pp 1¼; 10c.

McBride, Wilbert G.—*Motor Truck Operation at Mammoth Collins Mine, Schultz, Arizona*. [Abst. from the proceedings of the A. I. M. E., reviewing costs and what can be done with a motor truck].—Mg. World July 22 1916; p 145; pp 1¼; 10c. M. & S. P. July 8 1918; p 45; pp 2; 20c. Engg. & Contr. Aug. 16 1916; p 160; pp 1½; 20c.

McGregor, A. G.—*Features of the New Copper Smelting Plants in Arizona*. [Treats on the transportation and sampling of the ores as well as actual furnace practice].—Bull. A. I. M. E. Aug. 1916; p 1257*; 35c.

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Robins, Hallet R.—*Flotation at the Calaveras Copper—A Simple Flow-Sheet*. [Costs, transportation and the ore body are described, besides the flotation system. No table concentration is employed at all].—M. & S. P. Nov. 25 1916; p 769; pp 5*; 20c.

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Schiefer, H. V.—*An Automatic Tipple Near Moutzdale, Pa.* [Two men handle the tipple with a capacity of 2500 tons per day, and they handle 8 cars per minute. Line drawings and description of the tipple are given].—*Coal Age* Dec. 23 1916; p 1040; pp 4*; 20c.

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cost of the same are explained].—*S. Afr. Mg. Jnl.* Aug. 19 1916; p 465; pp 1; 35c.

—*Coal Handling on the Norfolk & Western Railway.* [A brief description of the coal handling facilities and methods used by this road].—*Coal Age* Sept. 23 1916; p 498; pp 1½; 20c.

—*Mechanical Coal Stage at Dairy-coates, England.* [Drawings and description of the structure are given].—*Coll'y Guard.* Sept. 22 1916; p 546; pp 1½*; 35c.

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Clapp, W. B.—*Motor Truck Development*. [Abstract of a paper read before the A. I. of Mech. Eng. A table showing operating costs for trucks making various mileages per day is given].—Mg. Jnl. Nov. 4 1916; p 735; pp 1¼; 35c.

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Scott, W. A.—*Commonwealth Mine and Mill, Pearce, Arizona*. [Gives details on operations and description of methods used].—Mg. World July 29 1916; p 187;

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—*American Coal Mine Haulage*. [Describes the practice in detail].—Coll'y Guard. July 14 1916; p 61; pp 2½*; 35c.

—*An Interesting Dynamometer Journal-Friction Test*. [A test to determine the friction in the old type of bearing on mine cars and the newer types of roller bearings].—Coal Age Dec. 16 1916; p 1000; pp 1½*; 20c.

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Fay, A. H.—*Coal Mine Fatalities in the United States, 1870-1914*. [Also contains statistics on coal production, labor and mining methods by states and calendar years].—U. S. Bur. of Mines; Bull. 115; pp 366; 50c.

Fay, Albert H.—*Coal Mine Fatalities in the United States, May, 1916*. [The nature, number and location of the accidents are given in tabulated form].—U. S. Bur. of Mines Monthly Statement; pp 28.

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Fay, Albert H.—*Coal-Mine Fatalities in the United States, August, 1916*. [The information is mostly in tabulated form].—U. S. Bur. of Mines Report; pp 28.

Fay, Albert H.—*Monthly Statement of Coal Mine Fatalities in the United States*. [Contains a list of permissible explosives, lamps and motors tested prior to Aug. 31 1916].—Bur. of Mines Statement July 1916; pp 28.

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Fay, Albert H.—*Accidents at Metallurgical Works in the United States*. [They are given for the greater part in tabulated form and include 1915 only].—U. S. Bur. of Mines Tech. Paper 164; pp 20; 15c.

Geismer, H. S.—*Explosion at the Bessemer Mine, Alabama*. [Thirty men are believed to have been killed in the explosion in a mine of the Sloss-Sheffield Steel & Iron Co.].—Coal Age Nov. 18 1916; p 835; pp 2¾*; 20c.

Hagemann, Ing.—*Beitrag zum Bergmännischen Rettungswesen*. [On safety and rescue work of mines and plants in Germany].—Zts. Berg., Hütten & Salinenw. Vol. 62 Ser. 3; p 222; pp 93½; \$1.50.

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Ryan, Edward.—*Biennial Report of the State Inspector of Mines, Nevada, 1913-1914*. [An account of the metal production by counties and separate descriptions of accidents].—Report; pp 52.

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— *Annual Report of Mine Inspector for Marquette County, Mich.* [Describes the accidents separately and classifies them in tabulated form].—Annual Report Sept. 30 1916; pp 18.

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— *Mines Inspector's Reports for 1915*. [A report of accidents, operations and labor conditions at mines in Great Britain, being confined mostly to coal].—I. & C. Tr. Rev. Oct. 20 1916; p 483; pp 3; 35c.

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Rose, Hugh.—*Mining and Milling Practice at Santa Gertrudis, Pachuca, Mexico*. [A complete detailed description with drawings].—Bull. A. I. M. E. Aug. 1916; p 1295; pp 38*; 35c. E. & M. J. Aug. 26 1916; p 371; pp 6*; 25c.

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Willcox, Fred H.—*Safe Practice at Blast Furnaces*. [Shows safe and unsafe way of doing things and has notes on some first aid].—U. S. Bur. of Mines Tech. Paper 136; pp 73*; 30c.

Wheeler, R. V.; Thornton, W. M.—*Electric Signaling with Bare Wires*. [Report on the danger of ignition of inflammable gaseous mixtures by the break-flash of the signal wires].—His Majesty's Stationery Office, London; 35c.

Wolfe, D.—*Safe Transportation Underground*. [From the Lehigh Employees' Magazine].—Coll'y. Guard. Oct. 13 1916; p 713; pp ½*; 35c.

— *Cap Lamp with New Feature*. [An electric lamp with a straight filament passing horizontally across the reflector].—Coal Age Dec. 2 1916; p 918; pp 1¼*; 20c.

— *Coöperative Effort in Mining*. [Discussion by several of a paper by Joseph P. Hodgson].—A. I. M. E. Bull. Dec. 1916; p 2168; pp 4; 35c.

— *Illumination*. [A general review of proper illumination with respect to safety on surface].—Anode Sept. 1916; p 1; pp 2; 20c.

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RESCUE AND FIRST-AID

Boardman, J. L.—*First Aid for Broken Bones*. [Reviews the nature of fractures and first aid methods for treating the same].—Anode Sept. 1916; p 8; pp 2*; 20c.

Brett, A. J.—*First Aid on Rand Mines*. [A paper read before the C. M. and M. Soc. of S. Afr.].—S. Afr. Mg. Jnl. July 1 1916; p 314; pp 2; 35c.

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Willcox, Fred H.—*Safe Practice at Blast Furnaces*. [Shows safe and unsafe way of doing things and has notes on some first aid].—U. S. Bur. of Mines Tech. Paper 136; pp 73*; 30c.

— *Progress of First-Aid Work in British Columbia*. [Considerable of the information is from a report to the B. C. Dept. of Mines by Dudley Mitchell].—E. & M. J. Nov. 4 1916; p 815; pp 1¼; 25c.

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MINES AND MINING (c*)

CHAPTER XV.

PRODUCTION

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Ashworth, James.—*The Iron and Steel Industry in British Columbia.* [Reviews mine and furnace production and conditions].—I. & C. Tr. Rev. Aug. 18 1916; p 183; pp 1*; 35c.

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Ball, Lionel C.—*Mount Cannindah Copper Mine, Australia.* [The history by years, geology, concentrating and smelting methods are taken up in detail with production figures].—Queen. Gov't Mg. Jnl. 1916; p 318; pp 6*; 35c.

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*Includes the Production of Metals and Metal Ores, Non-Metals, etc.

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Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Utah in 1915*. [Separate reviews of operations and production of the different counties. Conditions of the industry in the state as a whole are given and each of the metals is reviewed separately].—Min. Res. U. S. 1:15; pp 35.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Arizona in 1915*. [Separate reviews of the metals and activities in each of the counties in the state].—Min. Res. of U. S. 1:17; pp 37.

Heikes, V. C.—*Gold, Silver, Copper, Lead and Zinc in Montana in 1915*. [Separate reports of each metal and briefs

on the metals collectively for each county].—Min. Res. of U. S. I:19; pp 36.

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Hill, James M.—*Barytes and Strontium* in 1915. [Reviews by states and inclusion of a map showing location of deposits].—Min. Res. of U. S. II:15; pp 27.

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Katz, Frank J.—*Silica* in 1915. [Takes up the uses of silica, its production in general and by states, with briefs on other important siliceous materials].—Min. Res. of U. S. II:8; pp 6.

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Leshner, C. E.—*Coke* in 1915. [Besides a review of production and activities in detail, a map showing the location of all plants in the U. S. is given and the number of ovens at each is designated. Another table shows production by states from 1880 on].—Min. Res. of U. S. II:26; pp 44.

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Lewis, J. H.—*Zinc and Lead Districts of Wisconsin*. [On the mining and smelter operations and production during the first half of 1916].—Mg. World Aug. 5 1916; p 243; pp 4*; 10c.

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McDonald, P. B.—*Mining Around Lovelock, Nevada*. [Costs and accounts of the silver properties in the district, with some information on their production is given. The principal companies are Rochester and Seven Troughs Coalition].—M. & S. P. July 1 1916; p 14; pp 2*; 20c.

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Middleton, Jefferson.—*Clay-Working Industries and Building Operations in the Larger Cities in 1915*. [Reviews the production and operations of clay pits and brick manufactures by states and the entire industry for the United States].—Min. Res. U. S. II:30; pp 68.

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Phalen, W. C.; Hicks, W. B.—*Potash Salts in 1915*. [Chemical qualitative tests and methods of analysis are also given. The economic geology and occurrence of this mineral are reviewed with an account of the progress made in developing the resource in this country].—Min. Res. of U. S. II:12; pp 39.

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Ryan, Edward.—*Biennial Report of the State Inspector of Mines, Nevada, 1913-*

1914. [An account of the metal production by counties and separate descriptions of accidents].—Report; pp 52.

Schaller, Waldemar T.—*Gems and Precious Stones in 1915*. [Briefs on the production and activities of each state are given].—Min. Res. of U. S. II:20; pp 16.

Schaller, Waldemar T.—*Mica in 1915*. [Gives prices, imports, exports, uses, production, nature and place of occurrence, foreign markets and general conditions of the industry in U. S.].—Min. Res. U. S. II:21; pp 14.

Schrader, Frank C.—*Geology and Ore Deposits of Mohave County, Arizona*. [Published by permission of the U. S. G. S. Geology of the district and of several of the mines, with figures on their production is given].—Bull. A. I. M. E. Nov. 1916; p 1935; pp 33*; 35c.

Shumway, Ralph W.—*The Coal Industry of Colorado*. [A general review of the industry in Colorado and the coal production].—Colo. School of Mines Qt'y April 1916; p 26; pp 7; 35c.

Siebethal, C. E.—*Lead in 1915*. [On the production and market conditions in United States and briefs on several foreign countries].—Min. Res. U. S. I:9; pp 19.

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Singewald, Joseph T., Jr.; Miller, Benjamin.—*High-Grade Manganese Ores of Brasil*. [Excerpts from an article in Iron Age. A general description of the several deposits, mining and transportation costs and production are given].—Pan-American Union Bull. Nov. 1916; p 601; pp 5½*; 35c.

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Smeeth, W. F.—*Annual Report for the Year 1914*. [Part I takes up production and general conditions of the industry, while Part II is more of a geologic nature on several of the districts in the

state].—Mysore Dept. of Mines and Geol.; pp 188*; \$1.75.

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Stone, Ralph W.—*Gypsum in 1915*. [Reviews the uses, methods of refining and production].—Min. Res. of U. S. II:14; pp 9.

Stone, R. W.—*Sand and Gravel in 1915*. [Gives tabulated production by states, states in which glass-sand was produced and weight of sand and gravel per cubic yard].—Min. Res. U. S. II; pp 13.

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Wagner, P. A.—*Economic Geology and Mineral Industry of Southwest Africa*.—S. Afr. Mg. Jnl. July 1 1916; p 311; pp 1; 35c.

Wagner, William.—*Coeur d'Alene Mining Information*. [Financial statements of the larger companies are given and production and value thereof for the smaller ones. Brief separate accounts of each company in the district are also given].—Wagner, Wallace, Ida.; book; pp 174; \$4.

Wilson, A. W. G.—*On the Possibility of Producing Refined Copper in Canada*. [Published by permission of the Mines Branch, Ottawa, Ont. The deposits, reserves and refining of copper in Canada are discussed].—Canadian Mg. Jnl. Nov. 15 1916; p 529; pp 6½; 35c.

Wilson, Alfred W. G.—*Report on the Production of Spelter in Canada in 1916*. [Considerable miscellaneous information relative to zinc mining and smelting is given, besides production of the metal. Labor, mining and smelting costs are also given in some detail].—Canada Dept. of Mines, Mines Branch Report 428; pp 60.

Yale, Charles G.—*Borax in 1915*. [Most of this product comes from southern California].—Min. Res. U. S. II:32; pp 2*.

Yale, Charles G.—*Gold, Silver, Copper, Lead and Zinc in California and Oregon in 1915*. [Reviews the production by counties and in general].—Min. Res. of U. S. I:10; pp 51.

Yale, Charles G.—*Gold, Silver, Copper, Lead and Zinc in California in 1915*.—Min. Res. of U. S. I:10; pp 51.

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— *Baku Russian Petroleum*. [A review of operations and production in the district].—Petro. World Sept. 1916; p 426; pp 3; 35c.

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— *British Columbia Annual Report of the Minister of Mines for 1915*. [Reviews metal production in general for the province and in detail for operating companies].—Mg. Engg. & Elect. Rec. Aug. 1916; p 76; pp 3½; 35c.

— *British Columbia Report of the Minister of Mines*. [On the production and mineral industry of the provinces].—Mg. & Engg. Rec. Oct. 1916; p 92; pp 1½; 35c.

— *British Fertilizer Notes*.—American Fertilizer Aug. 5 1916; p 36; pp 3; 25c.

— *California Mineral Production*.—E. & M. J. Dec. 9 1916; p 971; pp 1½; 25c.

— *Canadian Metal Trades and Preparedness*. [A study of production, imports and exports].—Canadian Mg. Inst. Bull. Aug. 1916; p 675; pp 16½; 35c.

— *Coal Exports and Bunker Shipments in 1914 and 1915 in the United Kingdom*. [Parliamentary report showing the amount of coal shipped from each United Kingdom port to each foreign port].—I. & C. Tr. Rev. July 21 1916; p 74; pp 2; 35c.

— *Coke Production for Nine Months of 1916*. [From the Connells-ville Courier].—Coal Tr. Bull. Nov. 1 1916; p 27; pp 1½; 25c.

— *Die Bergwerksindustrie und Bergverwaltung Preussens im Jahre 1913*. [The mining industry of Prussia in 1913. Coal for the greater part is produced here].—Zts. Berg. Hütten & Salinenw. Band 62, 1914; p 367; pp 43½; \$1.50.

— *Die Petroleumindustrie Russlands im Jahre 1913*. [The petroleum industry and production in Russia in 1913].—Petroleum Oct. 7 1914; p 14; pp 2; 60c.

— *El Acero Martin en el Mundo*. [The production of high-speed steels in the world compared with other classes of steel].—*Revista Minera* Aug. 24, 1916; p 402; pp 2; Sept. 1; p 417; pp 1½; Sept. 8; p 428; pp 1½; Sept. 16; p 437; pp 3¼; Sept. 24; p 453; pp 1½; Oct. 1; p 462; pp 2¼; \$2.10.

— *Graphite*. [Its production and conditions in the principal markets of the world].—*Mg. Jnl.* Dec. 2 1916; p 793; pp 1½; 35c.

— *Great Gold Mines on the Rand, South Africa*. [Treats on their production].—*M. & S. P.* Sept. 2 1916; p 332; pp 4¼*; 20c.

— *Iowa State Mine Inspector's Report for the Biennial Period Ending Dec. 31 1915*. [Reviews operations by counties, giving mine production and new equipment installed at mines, with accidents in the district in tabulated form].—*State Mg. Bur. Report*; pp 112.

— *Italy's Coal Trade During War Doubles with America*. [Reviews the situation, production, imports and exports].—*C. Tr. Bull.* Aug. 1 1916; p 40; pp 2½; 25c.

— *Japanese Mining Expansion*.—*E. & M. J.* July 15 1916; p 143; pp 1; 25c.

— *Kleinfontein, South Africa*. [Deals with the future of the district and reviews the production, financial information and general mine operations in the district].—*S. Afr. Mg. Jnl.* Aug. 12 1916; p 440; pp 1¼*; 35c.

— *Metal Production of Ontario, First Half of 1916*.—*Mg. World* Oct. 7 1916; p 626; pp 1; 10c.

— *Mining in India*. [From production statistics issued by the Indian Geol. Surv.].—*Mg. Jnl.* Dec. 9 1916; p 812; pp 2; 35c.

— *New South Wales in 1915*. [Reviews the production of metals in the country].—*Mg. Jnl.* Sept. 2 1916; p 596; pp 2; 35c.

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— *Outlook in the Galician Oil Industry*. [Discusses several items affecting the industry].—*Petro. World* Aug. 1916; p 369; pp 1¼; 35c.

— *Pipe-Line Transportation of Petroleum*. [Full financial, cost, construction and operation accounts of various pipe lines in U. S. are given].—*U. S. Federal Trade Commission Report*; pp 467*.

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1915 *Annual Report*.—*S. Afr. Mg. Jnl.* Oct. 7 1916; p 122; pp 1; 35c.

— *Rhodesia Chamber of Mines, Annual Report, 1915*. [Questions brought up during the year are spoken of, with accounts of the production of various metals and a review of the labor bureau].—*Rhodesia Chamber of Mines, 1915 Report*; pp 71.

— *Rhodesia Chamber of Mines Executive Committee Report and Output of Gold and Other Minerals in April, 1916*. [The output of separate producers is given].—*Rhodesia Chamber of Mines Report* April 1916; pp 5.

— *Rhodesia Chamber of Mines Report of the Executive Committee*. [Tables of details of the production of gold and asbestos properties in the district are given].—*Rhodesia Chamber of Mines Report* Aug. 1916; pp 6.

— *Rhodesia Output of Gold and Other Metals and Minerals, July 1916*.—*Rhodesia Chamber of Mines Report*; pp 6; 35c.

— *Rhodesia Report of the Executive Committee of the Chamber of Mines and Production of Gold and Other Minerals in May, 1916*. [The production of operating gold companies is given individually].—*Rhodesia Chamber of Mines Report* May 1916; pp 6.

— *Russian Petroleum Company*. [Discusses operations for part of 1916, including profits, production and deep drilling].—*Petro. World* Sept. 1916; p 431; pp 3; 35c.

— *Six Months of Wonderful Prosperity for United States Mining*. [Reviews the first half of the year's production].—*Mg. World* Aug. 5 1916; p 229; pp 8¼*; 10c.

— *Statistical Position of Spelter*. [Editorial review].—*E. & M. J.* Dec. 2 1916; p 993; pp 1; 25c.

— *Sullivan Mine, East Kootenay, B. C.* [A description of mine operations and production, with an account of the geology of the formation and nature and occurrence of the ore bodies].—*Canadian Mg. Jnl.* Sept. 15 1916; p 444; pp 2¼; 35c.

— *Sulphur, Pyrites and Sulphuric Acid*. [A review of production and conditions for the world].—*Mg. Jnl.* Nov. 4 1916; p 730; pp 1¼; 35c.

— *The International Movement of Fertilizers and Chemical Products Useful to Agriculture*. [A review by tables and discussion of the production, imports and exports of fertilizing materials of all the countries of the world].—*International Inst. of Agriculture, Rome*; pp 76.

— *The Occurrence and Uses of Nickel Ores.* [Canada, New Caledonia and Norway are the principal countries reviewed, as regards production, occurrence, etc.].—Bull. Imp. Inst., E. C., 1916, No. 14; p 228; pp 26.

— *The Swedish Iron, Steel and Coal Industry in 1915.* [Some of the statistics, curves, etc., are taken from Jern-Kontoret's Annaler].—I. & C. Tr. Rev. Nov. 17 1916; p 614; pp 1*; 35c.

— *Tin Smelting Capacity of the World.* [Gives the possible production of tin from different companies' plants and from different districts].—Mg. Jnl. Sept. 23 1916; p 645; pp 1½; 35c.

— *Transvaal Chamber of Mines Report for 1915.* [A general account of the mineral industry in the state].—Transvaal Chamber of Mines Report.

— *Transvaal Chamber of Mines August Analysis of Gold Production.*

[Tonnage, yield, working costs, profits, dividends, etc., are given separately in tabulated form for each company].—Transvaal Chamber of Mines Aug. Report; pp 6.

— *Union Tin Mining Progress.* [On production and general condition of the industry in South African fields].—S. Afr. Mg. Jnl. Sept. 16 1916; p 55; pp 1; 35c.

— *United States Mint, Report of the text has to do with the nature of the Director for the Year of 1916.* [A report of the production of precious metals for 1915 and the Mint's operations to June 30 1916].—Treasury Dept. Annual Report of Mint; pp 286.

— *Zinc Mines in Tonkin, French Indo-China.* [Taken from a report of the Department of Commerce. A general review of the industry and conditions in the country today are given].—E. & M. J. Nov. 18 1916; p 900; pp 2¼; 25c.

MILL AND MILLING.

CHAPTER XVI.

SAMPLING

Burch, Kenyon.—*Mine and Mill Plant of the Inspiration Consolidated Copper Co., Arizona*. [A complete description of plant equipment and operations from underground pockets to the finished concentrate].—Bull. A. I. M. E. Sept. 1916; p 1467; pp 33*; 35c.

Fulton, Charles H.—*The Buying and Selling of Ores and Metallurgical Products*. [Methods of sampling and the different ways in which ores are settled for and penalized are explained].—U. S. Bur. of Mines Tech. Paper 83; pp 42; 15c.

Heath, George L.—*The Analysis of Copper and Its Ores and Alloys*. [Methods of analysis and assay for different products containing copper].—McGraw-Hill; book; pp 292*; \$3.

Herr, Irving.—*Some Observations on Sampling*. [Points out instances in this process where errors may be made to as great an extent as 49%].—E. & M. J. Dec. 9 1916; p 1015; pp 2¼*; 25c.

Landers, W. H.—*The Smelting of Mercury Ores*. [Speaks of the general thermic methods now in common use and mentions the open field here for hydrometallurgical methods and investigation].—E. & M. J. Oct. 7 1916; p 630; pp 5*; 25c.

Lodge, F. S.—*The Sampling of Fertilizers*. [Details of different methods in common use].—Amer. Fertilizer Oct. 14 1916; p 26; pp 3*; 25c.

McGregor, A. G.—*Features of the New Copper Smelting Plants in Arizona*. [Treats on the transportation and sampling of the ores as well as actual furnace practice].—Bull. A. I. M. E. Aug. 1916; p 1257*; 35c.

Rose, Hugh.—*Santa Gertrudis Mill, Pachuca, Mexico*. [Abst. from A. I. M. E. Bull. All-sliming process is used and details of construction, operation and equipment are given].—E. & M. J. Aug. 5 1916; p 247; pp 6*; 25c.

Shaw, Edmund N.—*Discrepancies in Cyanidation*. [Speaks of discrepancies from theft, leakage, waste, estimation of tonnage, sampling and assaying].—M. & S. P. July 15 1916; p 92; pp 2¾; 20c.

Trewartha-James, W. H.—*Taylor's Pulp Sampler*. [A discussion of the or-

iginal article].—Inst. of Mg. & Met. Bull. 146; pp 15*; 50c.

Turnbull, J. M.—*Relations Between Custom Smelters and Small Mine Owners*. [Abst. of an address to the Vancouver Chamber of Mines. Deals with the ways in which the ore is purchased by the smelters].—Mg. World July 8 1916; p 47; pp 2¾; 10c.

Young, George J.—*The Selection of a Method for Ore Treatment*. [On methods of testing and investigating new ores for refining treatment].—Met. & Chem. Engg. Sept. 15 1916; p 297; pp 2¾; 35c.

Woodbridge, T. R.—*Ore Sampling Conditions in the West*. [Excerpts from advance proofs of Tech. Paper 86 of the U. S. Bureau of Mines. Six methods of sampling are described which are in common use in the west and the particular classes of sampling for which each is fitted is given].—Mg. World July 29 1916; p 183; pp 3*; Aug 12 1916; p 279; pp 1¾; Oct. 7 1916; p 619; pp 2¼; Oct. 21 1916; p 703; pp 1*; Sept. 23 1916; p 537; pp 2; 50c.

CRUSHING, GRINDING, ETC.

Blackstone, Richard.—*A History of the Homestake Mine, S. D.* [Abst. from Pahasapa Quarterly. Reviews the progress of the company, mill and mines].—Mg. World July 15 1916; p 99; pp 3¼*; 10c.

Blickenderfer, F. C.—*A Comparative Test of the Marathon, Chilean and Hardinge Mills*. [Tests made at the Detroit Copper Co.'s plant, Morenci, Ariz.].—Bull. A. I. M. E. Aug. 1916; p 1333; pp 16*; 35c.

Bradley, George.—*Crushing and Grinding*. [The use of various kinds of crushing and grinding machinery at present is discussed, as noted from results now being obtained in various mills of the world].—Jnl. Chem. Met. & Mg. Soc. of S. Afr. Sept. 1916; p 39; pp 2¼; 50c.

Brantly, J. E.—*A Report on the Limestones and Marls of the Coastal Plain of Georgia*. [The geology of the formation and descriptions of deposits by counties. The uses and preparation of the rock are also given].—Georgia Geol. Surv. Bull. No. 21; pp 300*.

Burch, Kenyon.—*Mine and Mill Plant*

of the Inspiration Consolidated Copper Co., Arizona. [A complete description of plant equipment and operations from underground pockets to the finished concentrate].—Bull. A. I. M. E. Sept. 1916; p 1467; pp 33*; 35c.

Burch, Kenyon H.—*Concentration at Inspiration*. [Abst. from the Bulletin of the A. I. M. E. Ball mill grinding, methods of handling the tailings to thickeners and haulage systems are considered].—E. & M. J. Sept. 9 1916; p 457; pp 3½*; Sept. 23 1916; p 537; pp 5¾*; 50c.

Clark, Walter C.—*Electricity at the Bunker Hill & Sullivan Mines, Idaho*. [On the equipment and use of electricity in the mills, rock house, for pumping, hoisting, haulage and signaling].—Jnl. Elect. Power & Gas Dec. 23 1916; p 483; pp 3¾*; 35c.

Cole, David.—*Grinding Mills at the Inspiration*. [Discussion of a paper read before the A. I. M. E., in which comparison of two types of ball-mills was made].—M. & S. P. Dec. 9 1916; p 831; pp 1¾; 20c.

Cook, Paul R.—*Cyaniding Clayey Ore at the Buckhorn Gold Mine, Nevada*. [Crushing, cyaniding, and details of mining and milling costs per ton are considered].—Bull. A. I. M. E. Sept. 1916; p 1555; pp 9*; 35c.

De Kalb, Courtenay.—*Stamp vs. Ball Mill*. [A comparison of the two types of crushers].—M. & S. P. Sept. 2 1916; p 339; pp 1¾; 20c.

Dunning, C. H.—*The Big Pine Cyanide Mill, Arizona*. [An 80-ton mill making 90% extraction at \$1.37 per ton. Lead, silver and gold, with no copper or zinc, makes up the ore].—E. & M. J. Dec. 16 1916; p 1043; pp 1¾*; 25c.

Eddy, Lewis H.—*The Argonaut Mine, California*. [On the installation of a dam for storing tailings, power pumps and experimental work with flotation].—E. & M. J. Aug. 5 1916; p 265; pp 2¾*; 25c.

Gahl, Rudolph.—*Operations and Methods in Use at the Inspiration Property, Arizona*. [A flow sheet of the mill, with considerable statistical data on the distribution of power, milling and flotation work].—Mg. World Nov. 11 1916; p 825; pp 3*; 10c.

Gudgeon, C. W.—*Milling Scheelite-Gold Ores*. [Abst. from a paper read before the Aust. Inst. of M. E. Flow sheets and costs are given, with description].—E. & M. J. Aug. 19 1916; p 346; pp 2*; 25c.

Hoover, Theodore J.—*Concentrating Ores by Flotation*. [Third edition describing different processes, patents, liti-

gation, history, etc.].—Mg. Mag.; book; pp 320*; \$3.75.

Howard, L. O.—*Copper Metallurgy at Garfield, Utah*. [Describes crushing, concentration, flotation and smelting as regards equipment and operations].—M. & S. P. July 8 1916; p 54; pp 3½; 20c.

Jones, T. R.—*Pine Oil for Flotation Purposes*. [On experiments made to ascertain the proper destructive distillation of Norway pine for flotation oils].—Canadian Mg. Inst. Bull. Oct. 1916; p 882; pp 2; 35c.

Labbe, Charles.—*Replacing Mortar Blocks in Stamp Mills*.—E. & M. J. Aug. 26 1916; p 391; pp 1¾*; 25c.

Lamb, M. R.—*Don Luis Charmes's Tremain Steam Stamp*. [Some details of worries which come to consignees of mining machinery in South America].—E. & M. J. July 1 1916; p 17; pp 2¾*; 25c.

McCombie, J.—*The Milling of Gold Ores*. [Practical hints on various phases of the process].—Mg. & Engg. Rev. Oct. 5 1916; p 8; pp 1¾; 35c.

Merrill, F. J. H.—*Recent Ball Mill Types for Grinding Ores*. [Detailed description of Hardinge and Marcy ball-mills].—Mg. & Oil Bull. Oct. 1916; p 251; pp 4½*; Nov. 1916; p 273; pp 2½*; 50c.

Parker, S. M.—*Plant of the Babylonian Gold Mines, Nicaragua*. [Detailed description of the cyanide plant, which uses pneumatic stamps, and the results obtained at the plant in the various steps of the process].—M. & S. P. Dec. 23 1916; p 911; pp 4*; 20c.

Plummer, W. L.—*Successful Dry Placer Operations at Plomosa, Arizona*. [Speaks of early operations and the present methods of dry crushing and concentrating. Tables using air instead of water are used].—Mg. World July 1 1916; p 1; pp 3*; 10c.

Pope, George S.—*Methods of Sampling Delivered Coal*. [Methods of sampling used in the government purchase of coal].—U. S. Bur. of Mines Bull. 116; pp 64*; 25c.

Ralston, O. C.—*An Explanation of the Flotation Process*. [Discussion of a paper by A. F. Taggart and F. E. Beach].—A. I. M. E. Bull. Dec. 1916; p 2232; pp 2; 35c.

Ralston, O. C.—*The Flotation of Minerals*. [Discussion of a paper by R. J. Anderson].—A. I. M. E. Bull. Dec. 1916; p 2234; pp 2; 35c.

Rickard, T. A.—*The Britannia Mine and Mill, British Columbia*. [Details on the mill equipment and operation, with

further information on the mine workings and deposits].—M. & S. P. Nov. 11 1916; p 693; pp 8*; 20c.

Robins, Hallet R.—*Flotation at the Calaveras Copper—A Simple Flow-Sheet*. [Costs, transportation and the ore body are described, besides the flotation system. No table concentration is employed at all].—M. & S. P. Nov. 25 1916; p 769; pp 5*; 20c.

Rose, Hugh.—*Mining and Milling Practice at Santa Gertrudis, Pachuca, Mexico*. [A complete detailed description with drawings].—Bull. A. I. M. E. Aug. 1916; p 1295; pp 38*; 35c.

Scott, W. A.—*Commonwealth Mine and Mill, Pearce, Arizona*. [Gives details on operations and description of methods used].—Mg. World July 29 1916; p 187; pp 1½*; 10c.

Scott, W. A.—*Mining and Milling at Robinson, Colorado*. [Describes the mines and plant of the Progress Co. Flotation is used in the mill].—Mg. World Nov. 18 1916; p 865; pp 1¼*; 10c.

Scott, W. A.—*Nevada Douglas Mines and Mill*. [Describes the geology, mine workings and equipment, with more details on the crushing and leaching plants].—Mg. World Aug. 12 1916; p 277; pp 2*; 10c.

Scott, W. A.—*Operations at Battle Mountain, Nevada*.—Mg. World Aug. 19 1916; p 327; pp 2*; 10c.

Scott, W. A.—*Operations of the Magma Copper Co., Superior, Arizona*. [Gives a brief detailed description of the mine, crushing and concentration].—Mg. World July 1 1916; p 9; pp 1¼*; 10c.

Scott, W. A.—*Sulphidizing Carbonate Tailings for Treatment by Oil Flotation*. [While being agitated the crushed ore as carbonate is changed to a metallic sulphide by the addition of sodium sulphide].—Mg. World Dec. 2 1916; p 946; pp 1; 10c.

Shellshear, W.—*Flotation at the Mt. Morgan Mine, Queensland, Australia*. [A paper read before the Aust. Inst. of Mg. Eng. Operations are described though tests are given more consideration].—Mg. World Oct. 28 1916; p 741; pp 3; 10c.

Shellshear, W.—*Flotation of Gold and Copper Ores at Mount Morgan Mine, Queensland, Australia*. [Abstract of a paper read before the Aust. Inst. of Mg. Eng. The testing of different oils and different methods of concentration are told of].—Mg. World Dec. 2 1916; p 947; pp 1½; 10c.

Thomson, Herbert G.—*Construction*

and Operation of the Nevada Packard Mill. [A cyanide plant treating ore in which the principal mineral is cerargyrite].—M. & S. P. Sept. 9 1916; p 377; pp 8*; 20c.

Young, George J.—*The Selection of a Method for Ore Treatment*. [On methods of testing and investigating new ores for refining treatment].—Met. & Chem. Engg. Sept. 15 1916; p 297; pp 2¾; 35c.

— *A Comparative Test of the Marathon, Chilean and Hardinge Mills*. [Discussion].—A. I. M. E. Bull. Dec. 1916; p 2184; pp 13½; 35c.

FLOTATION

Adams, Maxwell.—*A New Flotation Oil*. [On sage-brush oil and the methods of extracting the same].—Bull. A. I. M. E. Sept. 1916; p 1683; pp 2; 35c.

Anderson, R. J.—*Metallurgical Disposal of Flotation Concentrates*. [Missouri School of Mines Bulletin. Treats on the breaking and dewatering of the froth and the final methods of smelting the concentrate].—Mg. World July 8 1916; p 57; pp 2¾; 10c.

Anderson, R. J.—*The Flotation of Minerals*. [A general detailed discussion and description of theory and practice].—Bull. A. I. M. E. July 1916; p 1119; pp 18; 35c. M. & S. P. July 8 1916; p 47; pp 3¾; 20c; Met. & Chem. Engg. July 15 1916; p 82; pp 4¾; 30c.

Belchic, George; Neal, Roy O.—*Surface Tension of Oil-Water Emulsions—A Flotation Theory*. [The surface tension of emulsions acid, alkaline and neutral are given for varying amounts of different kinds of oils as determined by the capillary method].—Mg. World Sept. 16 1916; p 487; pp 3*; 10c.

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complete description of the country, the ores, geology, methods of handling and preparing, and costs of the same].—Iron & Steel Inst. Adv. Copy 5; pp 20*; 50c.

Scott, W. A.—*Commonwealth Mine and Mill, Pearce, Arizona*. [Gives details on operations and description of methods used].—Mg. World July 29 1916; p 187; pp 1¾*; 10c.

Scott, W. A.—*Concentrating Tungsten Ores, Boulder County, Colorado*. [On milling methods and equipment in several of the more important plants of the district].—Mg. World Oct. 21 1916; p 697; pp 4¼*; 10c.

Scott, W. A.—*Concentrating Mill Tailings Near Park City, Utah*. [Concentration and haulage are dealt with. To get rid of zinc considerable of the lead and silver was lost formerly].—Mg. World Aug. 26 1916; p 359; pp 2½*; 10c.

Scott, W. A.—*Mining and Milling at Robinson, Colorado*. [Describes the mines and plant of the Progress Co. Flotation is used in the mill].—Mg. World Nov. 18 1916; p 865; pp 1¾*; 10c.

Scott, W. A.—*Mining Operations in Bingham Camp, Utah*. [Describes operations of the more important properties].—Mg. World Sept. 16 1916; p 491; pp 1¼; 10c.

Scott, W. A.—*Operations at Battle Mountain, Nevada*.—Mg. World Aug. 19 1916; p 327; pp 2*; 10c.

Scott, W. A.—*Operations in the Tintic District, Utah*. [Describes the district and its operations in general and then gives separate descriptions of the operations and methods of some of the companies].—Mg. World Sept. 30 1916; p 583; pp 1¼; 10c.

Scott, W. A.—*Operations of the Magma Copper Co., Superior, Arizona*. [Gives a brief detailed description of the mine, crushing and concentration].—Mg. World July 1 1916; p 9; pp 1¼*; 10c.

Scott, W. A.—*The Old Dominion Copper Co.'s Operations, Arizona*. [Haulage, mine water and concentration problems are reviewed].—Mg. World July 8 1916; p 43; pp 2¾*; 10c.

Scott, W. A.—*The Tonopah Extension Mines in Nevada*.—Mg. World Nov. 11 1916; p 831; pp 1; 10c.

Shellshear, W.—*Flotation of Gold and Copper Ores at Mount Morgan Mine, Queensland, Australia*. [Abstract of a paper read before the Aust. Inst. of Mg. Eng. The testing of different oils and different methods of concentration are told of].—Mg. World Dec. 2 1916; p 947; pp 1½; 10c.

Singewald, Joseph T., Jr.; Miller, Benjamin L.—*Silver-Tin Mining in Bolivia*. [Old stope filling is being taken out, chloridized, leached and then concentrated for the tin residue].—E. & M. J. Sept. 23 1916; p 533; pp 3*; 25c.

Smith, Howard D.—*Gold Saving on Dredges*. [Results are tabulated and drawings of jigs, etc., used in saving the gold from the dredged gravel are shown].—M. & S. P. Aug. 5 1916; p 202; pp 2¼*; 20c.

Sohnlein, M. G. F.—*Combination Pulp Classifier*. [A paper to be read before the A. I. M. E. The machine was designed because neither mechanical nor hydraulic classification of tin ores in Bolivia were satisfactory].—E. & M. J. July 22 1916; p 182; pp 1*; 25c.

Taggart, Arthur F.—*The Reclamation of Brass Ashes*. [Methods of concentration are given in detail, with results of tests].—A. I. of Metals Adv. Paper No. 5; pp 12*; 35c.

Vivian, Arthur C.—*Barytes Mining in Georgia*. [Describes the geology of the deposits, methods of prospecting, washing and concentration and the leaching method of refining].—E. & M. J. Dec. 23 1916; p 1083; pp 2¼*; 25c.

Watts, A. S.—*The Feldspar of New England and North Appalachian States*. [Goes into the lithology of feldspar rocks in general and gives nature of deposits by states. Methods of testing for quality and concentration of rock are given].—U. S. Bur. of Mines Bull. 92; pp 181*; 35c.

Wittich, L. L.—*Exploitation of Arkansas Zinc*. [Speaks of the nature of the deposits, the treating of sludge ore and recent mill construction].—E. & M. J. Aug. 12 1916; p 295; pp 2½*; 25c.

Wolf, H. J.; Barbour, P. P.—*The Boulder County Tungsten District, Colorado*. [Reviews the operations and conditions in the district. The principal companies are named, milling practice is described and a schedule of prices for tungsten ore is given].—E. & M. J. July 22 1916; p 165; pp 4¼*; 25c.

Wright, Clarence A.—*Jig Concentration in the Joplin District, Missouri*. [Abst. from the Joplin Globe].—M. & S. P. Sept. 2 1916; p 357; pp 1½*; 20c.

—*Concentration and Flotation of Lead Ores in Southeast Missouri*. [Editorial correspondence].—Met. & Chem. Engg. July 15 1916; p 93; pp 3; 30c.

—*Concrete Water Tunnel Lining at Chicago*. [Abst. from an article in Engg. News].—E. & M. J. Aug. 12 1916; p 299; pp 2¼*; 25c.

—*Oceanic Quicksilver Mill, Cali-*

fornia. [An account of equipment and operations].—E. & M. J. Sept. 16 1916; p 512; pp 1*; 25c.

—*Rooiberg Tin Dressing Plant*. [A reproduction of the plant's flowsheet].—S. Afr. Mg. Jnl. July 1 1916; p 309; pp 1*; 35c.

—*The Mount Morgan Mine and Works, Australia*. [Complete description of the geology, mining and concentrating plant of this mine, once a gold mine but now copper].—Mg. & Eng. Rev. July 5 1916; p 244; pp 9*; 35c.

AMALGAMATION

Allingham, John.—*Treating Amalgamation Tailings with Cyanide*.—E. & M. J. Sept. 30 1916; p 591; pp 1; 25c.

Lamb, M. R.—*Don Luis Charme's Tremain Steam Stamp*. [Some details of worries which come to consignees of mining machinery in South America].—E. & M. J. July 1 1916; p 17; pp 2¼*; 25c.

Blackstone, Richard.—*A History of the Homestake Mine, S. D.* [Abst. from Pahasapa Quarterly. Reviews the progress of the company, mill and mines].—Mg. World July 15 1916; p 99; pp 3¼*; 10c.

Lilburne, A. S.—*The Milling of Gold Ores*. [A general discussion regarding the general practices followed in Australia in the milling of gold ores].—Mg. & Engg. Rev. Nov. 6 1916; p 33; pp 1¼; 35c.

McCombie, J.—*The Milling of Gold Ores*. [Practical hints on various phases of the process].—Mg. & Engg. Rev. Oct. 5 1916; p 8; pp 1¼; 35c.

Macdonald, William.—*Absorption of Gold by Plates*. [Speaks of the absorption of gold by copper amalgamating plates].—M. & S. P. Dec. 16 1916; p 869; pp 1½; 20c.

Morse, E. C.—*Electrolytic Precipitation*. [Gives details of equipment and methods used in operating and testing a combination cyanide and amalgamation system as regards depositing the gold and silver with electricity].—M. & S. P. Oct. 28 1916; p 622; pp 2¾*; 20c.

Purinton, C. W.; Smith, R. E.—*Winter Sluicing at the Lenskoi Gold Mines, Siberia*. [Describes the methods and plant used for handling the frozen gravel by thawing and treating at once. Mining, construction and other operating costs are given].—Mg. Mag. Sept. 1916; p 143; pp 9*; 50c.

Scott, W. A.—*El Dorado Canyon—Mining, Milling and Development*. [The geology and operations of the mines and

mills of several of the companies in the district are given].—*Mg. World* Dec. 16 1916; p 1023; pp 3¼*; 10c.

Smith, Howard D.—*Gold Saving on Dredges*. [Results are tabulated and drawings of jigs, etc., used in saving the gold from the dredged gravel are shown].—*M. & S. P.* Aug. 5 1916; p 202; pp 2¼*; 20c.

CYANIDING

Allingham, John.—*Treating Amalgamation Tailings with Cyanide*.—*E. & M. J.* Sept. 30 1916; p 591; pp 1; 25c.

Bell, Robert N.—*Rich Gold Ore Found in Idaho*. [Reviews the deposits and recent findings in the Atlanta district].—*E. & M. J.* Oct. 28 1916; p 783; pp 2¼; 25c.

Blackstone, Richard.—*A History of the Homestake Mine, S. D.* [Abst. from *Pahasapa Quarterly*. Reviews the progress of the company, mill and mines].—*Mg. World* July 15 1916; p 99; pp 3¼*; 10c.

Bradley, George.—*Crushing and Grinding*. [The use of various kinds of crushing and grinding machinery at present is discussed as noted from results now being obtained in various mills of the world].—*Jnl. Chem. Met. & Mg. Soc.* of S. Afr. Sept. 1916; p 39; pp 2¼; 50c.

Bryan, R. R.—*From Precipitate to Bullion*. [A description of the handling of gold from the time it is taken from the zinc-boxes till it is refined gold, which has passed through the furnace].—*M. & S. P.* Dec. 9 1916; p. 834; pp 2½*; 20c.

Carpenter, Jay A.—*Ore Treatment at the West End, Tonopah, Nevada*. [Gives some costs and discusses in detail the results of operations rather than the methods].—*M. & S. P.* Aug. 5 1916; p 197; pp 1½; 20c.

Clevenger, G. H.—*Electrolytic Precipitation from Cyanide Solutions*. [A paper read before the American Electrochemical Soc.].—*E. & M. J.* Sept. 30 1916; p 579; pp 3½*; 25c.

Clevenger, G. H.; Morgan, Harry.—*Atmospheric Decomposition of Cyanide Solutions*. [Detailed results, tabulated data, description and curves relating to the loss of cyanide resulting from the atmosphere].—*M. & S. P.* Sept. 16 1916; p 413; pp 12*; 20c.

Cole, Arthur A.—*The Mining Industry in that Part of Northern Ontario Served by the T. & N. O. Railway*. [Covers the camps of Cobalt and Porcupine, with respect to their production, activities, profits and costs].—*T. & N. O. Commission*; Toronto; Report; pp 71*.

Cook, Paul R.—*Cyaniding Clayey Ore at the Buckhorn Gold Mine, Nevada*. [Crushing, cyaniding, and details of mining and milling costs per ton are considered].—*Bull. A. I. M. E.* Sept. 1916; p 1555; pp 9*; 35c.

Daman, Arthur C.—*The Nevada Wonder Mill*. [Describes a 150-ton cyanide process, where 10 tons per man per day are handled. The distribution of electric power is contained in tables].—*E. & M. J.* Nov. 25 1916; p 927*; pp 2*; 25c.

Dunning, C. H.—*The Big Pine Cyanide Mill, Arizona*. [An 80-ton mill making 90% extraction at \$1.37 per ton. Lead, silver and gold, with no copper or zinc, makes up the ore].—*E. & M. J.* Dec. 16 1916; p 1043; pp 1¾*; 25c.

Eames, Luther B.—*Countercurrent Decantation*. [This article is also in the *Bulletin of the Canadian Mg. Inst.* The results of many tests are plotted into curves, showing the effect of many of the variables in the process on its efficiency].—*A. I. M. E. Bull.* Dec. 1916; p 2087; pp 15*; 35c.

Edmands, H. R.—*Some Notes on the Effect of Lead Salts and of Varying Degree of Alkalinity on the Solvent Power of Cyanide Solution for Gold*. [The results of tests are tabulated and described].—*Jnl. Chamber of Mines West Aust.* April 29 1916; p 63; pp 8; 75c.

Edmands, H. R.—*Some Notes on the Effect of Lead Salts and of Varying Degree of Alkalinity on the Solvent Power of Cyanide Solution for Gold*. [Gives the results of some tests made].—*Monthly Jnl. Chamber of Mines West Aust.* June 30 1916; p 108; pp 4½; 35c.

Gabelein, Paul W.—*Air Lifts at a Cyanide Plant*. [From the *E. & M. J.* describing this type of installation at the Baker Mines Co., Oregon].—*Comp. Air.* Aug. 1916; p 8075; pp 1¾*; 20c.

Gaebelein, P. W.—*Cyaniding Copper-Bearing Ores*. [On operations at the Baker Mines Co., Cornucopia, Ore.].—*E. & M. J.* July 25 1916; p 22; pp 1¼*; 25c.

Howry, H. M.—*A New Method of Expressing Protective Alkalinity*. [The chemistry of the same is gone into and a chart reproduced].—*E. & M. J.* July 15 1916; p 139; pp ¾*; 25c.

Lilburne, A. S.—*The Milling of Gold Ores*. [A general discussion regarding the general practices followed in Australia in the milling of gold ores].—*Mg. & Engg. Rev.* Nov. 6 1916; p 33; pp 1¾; 35c.

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MacDonald, B.—*Counter-Migration of Pulp and Solution in Cyanidation and Acid Leaching*. [Abst. from Met. & Chem. Engg. A detailed description of a general hypothetical case].—Mg. World July 1 1916; p 5; pp 1½; 10c.

Miller, Benjamin Leroy; Singewald, J. T.—*The Gold Mines of Brazil*. [The two most noted mines are described. The power question, mining and refining of the ore are dealt with].—E. & M. J. July 29 1916; p 207; pp 5*; 25c.

Morgan, Harry J.; Ralston, Oliver C.—*Electrolytic Zinc-Dust*. [A paper read before the American Electrochem. Soc. on the electrolytical deposition of zinc from solution which would serve the cyanide process].—M. & S. P. Nov. 25 1916; p 779; pp 2; 20c.

Morse, E. C.—*Electrolytic Precipitation*. [Gives details of equipment and methods used in operating and testing a combination cyanide and amalgamation system as regards depositing the gold and silver with electricity].—M. & S. P. Oct. 28 1916; p 622; pp 2½*; 20c.

Neal, Walter.—*The Manganese and Silver Problem*. [Notes on investigations made to find a satisfactory method for treating silver-manganese ores].—Jnl. Chem. Met. & Mg. Soc. Aug. 1916; p 9; pp 9½; 35c.

O'Brien, C.—*Cyanidation at the Comacaran Mines, Salvador*. [Correspondence].—M. & S. P. July 1 1916; p 6; pp 1½; 20c.

Parker, S. M.—*Plant of the Babylonia Gold Mines, Nicaragua*. [Detailed description of the cyanide plant, which uses pneumatic stamps, and the results obtained at the plant in the various steps of the process].—M. & S. P. Dec. 23 1916; p 911; pp 4*; 20c.

Power, Danvers F.—*Precipitation of Gold and Silver on Zinc Dust*. [A talk on the use of different forms of zinc for precipitation].—Mg. & Engg. Rev. Oct. 5 1916; p 10; pp 1½; 35c.

Rose, Hugh.—*Mining and Milling Practice at Santa Gertrudis, Pachuca, Mexico*. [A complete detailed description with drawings].—Bull. A. I. M. E. Aug. 1916; p 1295; pp 38*; 35c.

Rose, Hugh.—*Metallurgical Experiments at Santa Gertrudis Mills, Pachuca, Mexico*. [Abst. from A. I. M. E. Bull. Flotation and electrolytic regeneration of cyanide are discussed].—E. & M. J. Aug. 5 1916; p 263; pp 2*; 25c.

Rose, Hugh.—*Santa Gertrudis Mill,*

Pachuca, Mexico. [Abst. from A. I. M. E. Bull. All-slitting process is used and details of construction, operation and equipment are given].—E. & M. J. Aug. 5 1916; p 247; pp 6*; 25c.

Scott, W. A.—*Commonwealth Mine and Mill, Pearce, Arizona*. [Gives details on operations and descriptions of methods used].—Mg. World July 29 1916; p 187; pp 1½*; 10c.

Scott, W. A.—*El Dorado Canyon—Mining, Milling and Development*. [The geology and operations of the mines and mills of several of the companies in the district are given].—Mg. World Dec. 16 1916; p 1023; pp 3¼*; 10c.

Shaw, Edmund N.—*Discrepancies in Cyanidation*. [Speaks of discrepancies from theft, leakage, waste, estimation of tonnage, sampling and assaying].—M. & S. P. July 15 1916; p 92; pp 2½; 20c.

Spaulding, C. F.—*Continuous Counter Current Agitation and Decantation*. [A mill constructed by the author is described besides others. Drawings are shown of plans and sections].—Mg. World Oct. 28 1916; p 3¼*; 10c.

Thomson, Herbert G.—*Construction and Operation of the Nevada Packard Mill*. [A cyanide plant treating ore in which the principal mineral is cerargyrite].—M. & S. P. Sept. 9 1916; p 377; pp 8*; 20c.

White, H. A.—*The Manganese Silver Problem*. [Discussion of a paper by W. Neal on why low extraction only can be obtained in extracting silver in the presence of manganese].—Jnl. Chem. Met. & Mg. Soc. of S. Afr. Sept. 1916; p 39; pp 2¼; 50c.

—*Decomposition of Cyanide*. [A general talk on the subject].—M. & S. P. Sept. 16 1916; p 407; pp 1; 20c.

—*Four Stages of Cyanidation Combined in One*. [Describes a machine which accomplishes the four operations of cyaniding, filtering, clarifying and precipitation].—Mg. World Sept. 2 1916; p 413; pp 1*; 10c.

—*Mining and Milling at the Santa Gertrudis, Mexico*. [The cyanide process is used here and the text is a discussion of a previous paper].—A. I. M. E. Bull. Dec. 1916; p 2197; pp 3; 35c.

—*The Influence of Silver Contents on Treatment of Gold Residues*. [From the W. A. Chamber of Mines Jnl., in which the results of tests made by the Great Boulder Perseverance Gold Co. are given and show that it is easier to dissolve the gold when the silver content is low].—Mg. & Engg. Rev. Nov. 6 1916; p 35; pp 1; 35c.

BRIQUETTING

Anderson, R. J.—*Metallurgical Disposal of Flotation Concentrates*. [On methods and results obtained in the breaking up and dewatering of the froth. The concentrates are smelted both direct and briquetted].—Mg. World July 8 1916; p 57; pp 2½; 10c.

Frey, W. P.—*Modern Practice in Fuel Briquetting*. [Describes a plant operating successfully and using petroleum residuum for a binder or cementing material].—Coal Age Dec. 9 1916; p 960; pp 3¾; 20c.

Stillman, A. L.—*Coal Briquettes—Fuel of Future*. [A review of the past and present use of briquetted coal].—C. Tr. Bull. Oct. 16 1916; p 33; pp 2; 25c.

CHLORINATION

Addicks, Lawrence.—*Possibilities in the Wet Treatment of Copper Concentrates*. [The method tested and described here consists of roasting and then leaching].—Bull. A. I. M. E. Sept. 1916; p 1565; pp 9*; 35c.

Foote, Frederick W.—*Estimating Construction Costs*. [The present status of estimating, with examples from practice based on the ratio of labor and materials entering into the work].—E. & M. J. Nov. 11 1916; p 857; pp 3¾; 25c.

Neal, Walter.—*The Manganese and Silver Problem*. [Notes on investigations made to find a satisfactory method for treating silver-manganese ores.—Jnl. Chem. Met. & Mg. Soc. Aug. 1916; p 9; pp 9½; 35c.

Singewald, Joseph T., Jr.; Miller, Benjamin L.—*Silver-Tin Mining in Bolivia*. [Old stope filling is being taken out, chloridized, leached and then concentrated for the tin residue].—E. & M. J. Sept. 23 1916; p 533; pp 3*; 25c.

Stander, H. J.—*The Flotation Process*. [A text with subjects in logical sequence for the student and others. Various methods are described in detail, methods of testing, costs, practice, etc., are dealt with separately].—Mining World Co.; book; pp 175*; \$3.

—*Chlorination Aided by Actinic Light*. [Speaks of chlorination with respect to hydro-carbons and other petroleum products].—Mg. World Sept. 16 1916; p 506; pp 1*; 10c.

MILLING COSTS

Blickenderfer, F. C.—*A Comparative Test of the Marathon, Chilean and Hard-*

inge Mills. [Tests made at the Detroit Copper Co.'s plant, Morenci, Ariz.].—Bull. A. I. M. E. Aug. 1916; p 1333; pp 16*; 35c.

Carpenter, Jay A.—*Ore Treatment at the West End, Tonopah, Nevada*. [Gives some costs and discusses in detail the results of operations rather than the methods].—M. & S. P. Aug. 5 1916; p 197; pp 1½; 20c.

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Crowley, John A.—*The Gronwall-Dixon Electric Furnace*. [A paper read before the American Foundrymen's Assn. Deals with the construction of the furnace, its operation and gives drawing and detailed costs of producing steel with the same].—I. Tr. Rev. Sept. 21 1916; p 571; pp 2½*; 25c.

Dunning, C. H.—*The Big Pine Cyanide Mill, Arizona*. [An 80-ton mill making 90% extraction at \$1.37 per ton. Lead, silver and gold, with no copper or zinc, makes up the ore].—E. & M. J. Dec. 16 1916; p 1043; pp 1¾*; 25c.

Eames, Luther B.—*Countercurrent Decantation*. [This article is also in the Bulletin of the Canadian Mg. Inst. The results of many tests are plotted into curves, showing the effect of many of the variables in the process on its efficiency].—A. I. M. E. Bull. Dec. 1916; p 2087; pp 15*; 35c.

Gilbert, J.—*Costs and Profits of an Up-to-Date Spelter Works*. [A practical consideration of the subject and operations connected therewith].—Mg. Jnl. July 15 1916; p 496; pp 1¾; 35c.

Gudgeon, C. W.—*Milling Scheelite-Gold Ores*. [Abst. from a paper read before the Aust. Inst. of M. E. Flow sheets and costs are given with description].—E. & M. J. Aug. 19 1916; p 346; pp 2*; 25c.

Gudgeon, C. W.—*The Scheelite Gold Mines of Otago, New Zealand*. [Several properties are described. In each the ore body, milling process and milling and mining costs are dealt with].—Proc. Aus. Inst. M. E. No. 21 1916; p 37; pp 14*; 65c.

Handy, R. S.—*Bunker Hill & Sullivan*

Milling Data. [Flow sheets and drawings, with brief description of operations and detailed cost sheet are dealt with].—E. & M. J. July 1 1916; p 35; pp 2¼*; 25c.

Johnson, J. E., Jr.—*Commercial Considerations Concerning the Blast Furnace.* [Includes location, construction, costs, size and rate of driving the furnace, limitations to fuel economy and the dry blast].—Met. & Chem. Engg. Sept. 1 1916; p 235; pp 9½*; 35c.

Magnus, B.—*Blast vs. Reverberatory Furnace.* [The advantages of the blast over the reverberatory furnace, as noted at Mount Morgan, Australia].—E. & M. J. Oct. 7 1916; p 668; pp 1½; 25c.

McDonald, P. B.—*Mining Around Lovelock, Nevada.* [Costs and accounts of the silver properties in the district, with some information on their production is given. The principal companies are Rochester and Seven Troughs Coalition].—M. & S. P. July 1 1916; p 14; pp 2*; 20c.

Parker, S. M.—*Plant of the Babylonia Gold Mines, Nicaragua.* [Detailed description of the cyanide plant, which uses pneumatic stamps, and the results obtained at the plant in the various steps of the process].—M. & S. P. Dec. 23 1916; p 911; pp 4*; 20c.

Robins, Hallet R.—*Flotation at the Calaveras Copper—A Simple Flow-Sheet.* [Costs, transportation and the ore body are described, besides the flotation system. No table concentration is employed at all].—M. & S. P. Nov. 25 1916; p 769; pp 5*; 20c.

Scott, Herbert K.—*Manganese Ores of the Bukovina, Austria.* [A concise but complete description of the country, the ores, geology, methods of handling and preparing and costs of the same].—Iron & Steel Inst. Adv. Copy 5; pp 20*; 50c.

Shellshear, W.—*Flotation of Gold and Copper Ores at Mount Morgan Mine, Queensland, Australia.* [Abstract of a paper read before the Aust. Inst. of Mg. Eng. The testing of different oils and different methods of concentration are told of].—Mg. World Dec. 2 1916; p 947; pp 1½; 10c.

Spilman, C. F.—*Tom Reed Gold Mines Property, Arizona.* [A general description of the mine workings and formation with details is given].—Mg. World Dec. 23 1916; p 1073; pp 1½*; 10c.

Stannard, O. J.—*Chemical Methods of Extraction.* [Deals with the chemistry and brief description of thermic, electro and hydro metallurgical processes. A

discussion of costs is also given].—Mg. Mag. July 1916; p 15; pp 5; 50c.

Thomson, Herbert G.—*Construction and Operation of the Nevada Packard Mill.* [A cyanide plant treating ore in which the principal mineral is cerargyrite].—M. & S. P. Sept. 9 1916; p 377; pp 8*; 20c.

Thum, E. E.—*Cost Accounting in the Construction and Operation of a Copper Smelter.* [From experience at the Anaconda Copper Co.'s plant].—Met. & Chem. Engg. July 15 1916; p 96; pp 4¼; 30c.

Trautschold, Reginald.—*The Economics of Material Handling in Manufacturing Plants.* [Treats on the cost of belt conveying. Curves are reproduced].—Engg. Mag. Sept. 1916; p 734; pp 13*; 35c.

Turnbull, J. M.—*Relations Between Custom Smelters and Small Mine Owners.* [Abst. of an address to the Vancouver Chamber of Mines. Deals with the ways in which the ore is purchased by the smelters].—Mg. World July 8 1916; p 47; pp 2¼; 10c.

Wilson, Alfred W. G.—*Report on the Production of Spelter in Canada in 1916.* [Considerable miscellaneous information relative to zinc mining and smelting is given, besides production of the metal. Labor, mining and smelting costs are also given in some detail].—Canada Dept. of Mines, Mines Branch Report 428; pp 60.

—*Britannia Mining and Smelting Co., Ltd., Howe Sound, B. C.* [Reprint of a company balance sheet and report closed Jan. 1 1916].—Canada; Mg. Jnl. July 1 1916; p 323; pp 3¼; 35c.

—*Canadian Mining Corporation.* [Cost and other details of operation].—E. & M. J. Aug. 19 1916; p 348; pp 1¼; 25c.

—*Consolidation of the Treadwell Mines, Alaska.* [Operating costs, production, description of the company's holdings, etc., and items of financial interest are given].—M. & S. P. Aug. 26 1916; p 307; pp 7*; 20c.

—*Mount Morgan Mine and Works, Australia.* [Describes the sintering and converting plant equipment and operations. Also the electric power plant using turbines].—Mg. & Engg. Rev. Aug. 5 1916; p 278; pp 6¼*; 35c.

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—*Stamp Milling at Alaska Treadwell.* [A detailed cost sheet of operations].—E. & M. J. July 1 1916; p 46; pp ½; 25c.

—*Winona Copper-Leaching Test Plant.* [The Slater process is used. A

5-ton plant using hydrometallurgy and electrometallurgy is described and operating costs are given].—E. & M. J. Nov. 25 1916; p 929; pp 1½; 25c.

MILL MISCELLANY

Avery, Paul W.—*The Importance of Efficient Settling of Slime*. [Tables and curves showing the results of tests are reproduced and discussion of the results made].—M. & S. P. Nov. 18 1916; p 738; pp 4¼*; 20c.

Cole, Arthur A.—*The Mining Industry in that Part of Northern Ontario Served by the T. & N. O. Railway*. [Covers the camps of Cobalt and Porcupine, with respect to their production, activities, profits and costs].—T. & N. O. Commission; Toronto; Report; pp 71*.

Clark, Walter C.—*Electricity at the Bunker Hill & Sullivan Mines, Idaho*. [On the equipment and use of electricity in the mills, rock house, for pumping, hoisting, haulage and signaling].—Jnl. Elect. Power & Gas Dec. 23 1916; p 483; pp 3¼*; 35c.

Dewell, Henry D.—*Timber Framing*. [Various methods of splicing and descriptions of different types of timber trusses are given].—West. Engg. Dec. 1916; p 455; pp 7*; 25c.

Fulton, Charles H.—*The Buying and Selling of Ores and Metallurgical Products*. [Methods of sampling and the different ways in which ores are settled for and penalized are explained].—U. S. Bur. of Mines Tech. Paper 83; pp 42; 15c.

Labbe, Charles. — *The Wrong Mill*.

[Tells of experience with poorly designed mills].—E. & M. J. July 1 1916; p 23; pp 1; 25c.

Robertson, J. A. T.—*An Engineer's Travels in Western China*. [A geographic review of the province of Szechuan, China, as related to the mining industries of the province, which are in their primitive stages still].—Mg. Mag. Nov. 1916; p 267; pp 13*; 50c.

Scobey, Fred C.—*The Flow of Water in Wood-Stave Pipe*. [Tables, curves and text on the practical theory and formulas used in connection with wood piping and a discussion of the adaptability of wood pipe].—U. S. Dept. of Agr. Bull. 376; pp 96*.

Wiard, E. S.—*Choosing the Mill Site*. [A discussion of factors governing the selection of the site].—E. & M. J. July 1 1916; p 1; pp 3*; 25c.

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——— *Description of the Laboratories of the Mines Branch of the Department of Mines, Ottawa, Ontario*. [Laboratories for investigating fuels, milling and metallurgical processes, ceramics, metallography, etc., are described in detail].—Canada Mines Branch Bull. 13; pp 111*.

CHEMISTRY AND ASSAYING.

CHAPTER XVII.

CHEMISTRY

Blakeley, A. G.—*Chemistry in Coal Mining*. [Some details and speaks of lines along which the coal mine chemist could work].—*Coal Age* Aug. 19 1916; p 296; pp 6½; 20c.

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Clennell, J. E.—*Estimating Metallic Aluminum in Aluminum Dust*. [Deals mostly with gasometric methods].—*E. & M. J.* Aug. 12 1916; p 309; pp 1½; 25c.

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Drushel, W. A.; Elston, C. M.—*On the Quantitative Estimation of Small Quantities of Sulphide Sulphur*. [The work is done with the inner tube of a Liebig condenser].—*American Jnl. of Sci.* Aug. 1916; p 155; pp 4; 60c.

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Hallett, R. L.—*The Volumetric Determination of Tin*. [Discusses different volumetric methods, pointing out the advantages and disadvantages of each].—*Jnl. Soc. Chem. Ind.* Nov. 15 1916; p 1087; pp 3; 75c.

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Phalen, W. C.; Hicks, W. B.—*Phosphate Rock in 1915*. [On the market, production, methods of making soluble phosphates and chemical tests for the mineral].—Min. Res. of U. S. II:18; pp 18.

Phalen, W. C.; Hicks, W. B.—*Potash Salts in 1915*. [Chemical qualitative tests and methods of analysis are also given. The economic geology and occurrence of this mineral are reviewed with an account

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Stannard, O. J.—*Chemical Methods of Extraction*. [Deals with the chemistry and brief description of thermic, electro and hydro metallurgical processes. A discussion of costs is also given].—Mg. Mag. July 1916; p 15; pp 5; 50c.

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Gudgeon, C. W.—*The Scheelite Gold Mines of Otago, New Zealand*. [Several properties are described. In each the ore body, milling process and milling and mining costs are dealt with].—Proc. Aus.

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Matheson, A. M.—*Notes on the Chemical Assay of Tin Ores*. [Discussion of the chemical and fire assay of pyritic tin ores show that mill losses can not be estimated by vanning and the fire method].—Proc. Aus. Inst. M. E. No. 21 1916; p 1; pp 7; 65c; Mg. & Engg. Rev. June 5 1916; p 221; pp 2½; 35c; Mg. World Sept. 9 1916; p 451; pp 2¼; 10c.

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Ralston, O. C.—*Graphic Studies of Ultimate Analyses of Coals.* [A graphic method described in detail by which coals are classified and studied according to their chemical contents].—U. S. Bur. of Mines Tech. Paper 93; pp 41*; 20c.

Runner, J. J.—*Specific Gravity Method for Tungsten Analysis.* [Curves for use in this connection are reproduced].—M. & S. P. July 1 1916; p 11; pp 2¼*; 20c.

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METALLURGY.

CHAPTER XVIII.

ELECTROMETALLURGY

Addicks, Lawrence.—*An Analysis of Tank Resistance in Electrolytic Refining*. [A general discussion of the subject, with particular reference to resistance].—Met. & Chem. Engg. Nov. 15 1916; p 566; pp 5*; 35c.

Addicks, Lawrence.—*The Metal Tie-Up in Electrolytic Refining*. [A very complete description of the operation of electrolytic refining and results obtained at different stages in the process].—Met. & Chem. Engg. Sept. 15 1916; p 305; pp 8*; 35c.

Antisell, F. L.; Skowronski, S.—*Electrolytic Refining of Copper*. [Describes the electrolytic refining and method of melting the cathode copper].—Amer. Inst. of Metals Adv. Copy 20; pp 11*; 35c; E. & M. J. Nov. 11 1916; p 874; pp 2¼; 25c.

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read before the A. I. M. E. The ore is roasted and leached with sulphuric acid].—M. & S. P. Oct. 28 1916; p 630; pp 234*; 20c.

Addicks, Lawrence.—*Possibilities in the Wet Treatment of Copper Concentrates*. [The method tested and described here consists of roasting and then leaching].—Bull. A. I. M. E. Sept. 1916; p 1565; pp 9*; 35c; Met. & Chem. Engg. Dec. 1 1916; p 628; pp 3*; 35c.

Bretherton, S. E.—*Electrolytic Practice*. [Correspondence speaking of previous penalizing for zinc in some ores and the doing away of this through the introduction of the electrolytic process developed by the Anaconda Co.].—M. & S. P. Dec. 2 1916; p 793; pp 2; 20c.

Fischer, Sigfried, Jr.—*Contributions to the Knowledge of the Electrolysis Aqueous Solutions of Vanadium Salts*. [Gives the results of previous investigations showing the behavior of vanadium and its salts under various conditions, specially in solution as an electrolyte].—American Electrochem. Soc. Adv. Paper 9; p 119; pp 45*; 35c.

Hammond, L. D.—*The Electrodeposition of Nickel*. [Tables and description showing the chemicals used in different electrolytes are given with the current used in deposition, and all the information given is specific rather than general].—American Electrochem. Soc. Adv. Paper 12; p 201; pp 29; 35c.

Hill, James M.—*Platinum and Allied Metals* in 1915. [Reviews production in general, by states and foreign countries. Methods of refining and extracting from other metals is spoken of briefly].—Min. Res. of U. S. 1:6; pp 19.

Landers, W. H.—*The Smelting of Mercury Ores*. [Speaks of the general thermic methods now in common use and mentions the open field here for hydrometallurgical methods and investigation].—E. & M. J. Oct. 7 1916; p 630; pp 5*; 25c.

MacDonald, B.—*Counter-Migration of Pulp and Solution in Cyanidation and Acid Leaching*. [Abst. from Met. & Chem. Engg. A detailed description of a general hypothetical case].—Mg. World July 1 1916; p 5; pp 14; 10c.

Morse, H. W.; Tobelmann, H. A.—*Leaching Tests at New Cornelia, Arizona*. [Different methods and the results of tests are dealt with].—Bull. A. I. M. E. Sept. 1916; p 1593; pp 18*; 35c.

Neal, Walter.—*The Manganese and Silver Problem*. [Notes on investigations made to find a satisfactory method for treating silver-manganese ores].—Jnl.

Chem. Met. & Mg. Soc. Aug. 1916; p 9; pp 94; 35c.

Phalen, W. C.—*Bauxite and Aluminum in 1915*. [On the production, uses and methods of refining].—Min. Res. of U. S. 1:7; pp 16*.

Rose, C. A.—*Metallurgical Operations at the Chile Exploration Co.* [A paper read before the Pan-American Sci. Cong. The ores are leached as sulphates and electrolytically precipitated].—Teniente Topics Aug. 1916; p 19; pp 5*; 35c.

Scott, W. A.—*Nevada Douglas Mines and Mill*. [Describes the geology, mine workings and equipment, with more details on the crushing and leaching plants].—Mg. World Aug. 12 1916; p 277; pp 2*; 10c.

Scott, W. A.—*Plant Construction of the New Cornelia Copper Co., Arizona*. [Electric power is used and the ores are refined by electrolysis and leaching].—Mg. World July 15 1916; p 89; pp 34*; 10c.

Scott, W. A.—*Sulphidizing Carbonate Tailings for Treatment by Oil Flotation*. [While being agitated the crushed ore as carbonate is changed to a metallic sulphide by the addition of sodium sulphide].—Mg. World Dec. 2 1916; p 946; pp 1; 10c.

Sims, Clarence E.; Ralston, O. C.—*The Electrolytic Recovery of Lead from Brine Leaches*. [The results of experimental work and operations with this method of procedure are given].—Amer. Electrochem. Soc. Adv. Copy 11; p 185; pp 15; 35c; Met. & Chem. Engg. Oct. 1 1916; p 410; pp 4*; 35c.

Singewald, Joseph T., Jr.; Miller, Benjamin L.—*Silver-Tin Mining in Bolivia*. [Old stope filling is being taken out, chloridized, leached and then concentrated for the tin residue].—E. & M. J. Sept. 23 1916; p 533; pp 3*; 25c.

Stannard, O. J.—*Chemical Methods of Extraction*. [Deals with the chemistry and brief description of thermic, electro and hydro metallurgical processes. A discussion of costs is also given].—Mg. Mag. July 1916; p 15; pp 5; 50c.

Vivian, Arthur C.—*Barytes Mining in Georgia*. [Describes the geology of the deposits, methods of prospecting, washing and concentration and the leaching method of refining].—E. & M. J. Dec. 23 1916; p 1083; pp 24*; 25c.

Yeatman, Pope.—*Mine of Chile Exploration Co., Chuquicamata, Chile*. [A paper read before the Pan-American Sci. Cong. The history, geology, reserves, power plant and testing of hydrometallurgical treatment of the ores are includ-

ed].—Teniente Topics Aug. 1916; p 1; pp 18*; 35c.

— *Copper Leaching, New Development in.*—Mg. World Oct. 21 1916; p 706; pp 1; 10c.

— *French Electrolytic Process.*—Mg. World Sept. 9 1916; p 450; pp ¾; 10c.

— *Hulett Unloader as Applied to the Handling of Copper Ore.* [An excavator to handle the leached sands from the tanks at the plant of the New Cornelia Copper Co., Ariz.].—Mg. World Dec. 2 1916; p 951; pp 1*; 10c.

— *Leaching Tests at New Cornelia Plant, Arizona.* [Discussion by members of a previous paper].—A. I. M. E. Bull. Dec. 1916; p 2151; pp 8; 35c.

— *The Bisulphite Process.* [Zinc sulphide is roasted to an oxide; changed to a bisulphite with sulphuric acid and leached from the foreign material].—E. & M. J. Nov. 18 1916; p 895; pp 3½; 25c.

— *The Peugeot Process of Zinc Electrolysis.* [A complete but concise description of the method is given].—S. L. Mg. Rev. July 30 1916; p 17; pp 2¾; 25c.

— *Winona Copper-Leaching Test Plant.* [The Slater process is used. A 5-ton plant using hydrometallurgy and electrometallurgy is described and operating costs given].—E. & M. J. Nov. 25 1916; p 929; pp 1½; 25c.

METALLURGY GENERAL

Bretherton, S. E.—*Electrolytic Practice.* [Correspondence speaking of previous penalizing for zinc in some ores and the doing away of this through the introduction of the electrolytic process developed by the Anaconda Co.].—M. & S. P. Dec. 2 1916; p 793; pp 2; 20c.

Dunstan, B.—*Queensland Mineral Deposits.* [Deals with the geology, chemistry and metallurgy of magnesite, dolomite and magnesium salts].—Queen. Govt. Mg. Jnl. Nov. 15 1916; p 529; pp 4½; 35c.

Fay, Albert H.—*Accidents at Metallurgical Works in the United States.* [They are given for the greater part in tabulated form and include 1915 only].—U. S. Bur. of Mines Tech. Paper 164; pp 20; 15c.

Fulton, Charles H.—*The Buying and Selling of Ores and Metallurgical Products.* [Methods of sampling and the different ways in which ores are settled for and penalized are explained].—U. S. Bur. of Mines Tech. Paper 83; pp 42; 15c.

Gadd, C. J.—*Use of Powdered Coal in Metallurgical Processes.* [A discussion of the engineering principles involved].—Jnl. Frank. Inst. 1916; No. 182; p 323; pp 30; 35c.

Hess, Frank L.—*Magnesium in 1915.* [Though production figures are given the greater part is on the manufacture, prices, uses, history of the method of manufacture, imports and exports].—Min. Res. U. S. I:23; pp 7.

Irvin, Donald F.—*Strontium Nitrate: A New Industry.* [A flow sheet used for the refining of celestite to this product is given, besides a general review of the industry].—M. & S. P. Nov. 25 1916; p 774; pp 2¾; 20c.

Richards, J. W.—*The Metallurgy of the Rarer Metals.* [Abst. from a paper read before the American Inst. of Chem. Eng. Discussing the importance of the future of magnesium, chromium and other metals].—Mg. World July 15 1916; p 93; pp 1¼; 10c.

Rickard, T. A.—*E. P. Mathewson, an All-Round Metallurgist.* [A bibliography of Mathewson's life in the form of a conversation. Most of his experience was in thermic metallurgy].—M. & S. P. Dec. 9 1916; p 857; pp 8*; 20c.

Turnbull, J. M.—*Relations Between Custom Smelters and Small Mine Owners.* [Excerpts from an address to the Vancouver Chamber of Mines. Treats in general on the buying of ores by a custom smelter].—Mg. World July 8 1916; p 47; pp 2¾; 10c.

Wilson, A. W. G.—*On the Possibility of Producing Copper in Canada.* [Published by permission of the Mines Branch, Ottawa, Ont. The deposits, reserves and refining of copper in Canada are discussed].—Canadian Mg. Jnl. Nov. 15 1916; p 529; pp 6½; 35c.

— *British Association for the Advancement of Science.* [A report of the Fuel Economy Committee dealing with the use, consumption and conservation of coal in different industries].—Coll'y Guard. Sept. 15 1916; p 499; pp 4*. I. C. Tr. Rev. Sept. 15; p 299; pp 5*; 35c.

— *Description of the Laboratories of the Mines Branch of the Department of Mines, Ottawa, Ontario.* [Laboratories for investigating fuels, milling and metallurgical processes, ceramics, metallography, etc., are described in detail].—Canada Mines Branch Bull. 13; pp 111*.

— *Separating Metals from Flue and Bag House Dust.* [Abst. of a patent description of the process].—Mg. World Oct. 14 1916; p 661; pp 1½; 10c.

POWER AND MACHINERY.*

CHAPTER XIX.

ELECTRICITY

Balliet, Letson.—*Underground Electric Mine Lighting*. [Discusses this subject from the point of view that electric lights underground make possible more efficient operation].—Mg. World Dec. 23 1916; p 1072; pp 1; 10c.

Brown, J. F. K.—*Imagination Applied to Mining*. [A review of the possible future as regards the transmission of electric power, pumping, etc. The cases are purely hypothetical].—Coal Age July 22 1916; p 142; pp 2½; 20c.

Buck, A. M.—*Some Graphical Solutions of Electric Railway Problems*. [Formulas, description and curves on various problems].—Univ. of Ill. Bull. July 24 1916; pp 36*.

Burch, H. Kenyon; Whiting, M. A.—*Automatic Electric Hoist at the Inspiration Mine, Arizona*. [Abstract of a paper read before the A. I. M. E. The hoist is driven by motors which are automatically driven].—M. & S. P. Dec. 2 1916; p 801; pp 5¾*; 20c.

Campbell, Edward D.—*The Influence of Heat Treatment on the Thermo-Electric Properties and Specific Resistance of Carbon Steels*. [The results and nature of the tests are described and 8 curves are reproduced, showing the results of these and other tests].—Iron & Steel Inst. Adv. Copy 2; pp 18*; 50c.

Capron, W. C.; Kuzell, C. R.—*Metallurgical Works Tramways*. [Reviews and discusses the use of different types of locomotives used about smelters and in some cases gives cost data on their operation].—E. & M. J. Oct. 27 1916; p 613; pp 8*; 25c.

Collins, V. B.—*Coal-Cutting by Machinery in the Newcastle and Maitland Districts, N. S. W.* [Machines operated by electricity and compressed air are described and discussed].—Northern Engg. Inst. of N. S. W. April Proc.; p 25; pp 30*; 50c.

Copeland, Clem A.—*Properties of Iron*

*Note.—For drills, pumps, fans, haulage and winding engines, dredges, excavators, crushers, separators, conveyors, transportation, machinery, etc., see respectively "Drilling and Boring," "Pumping," "Ventilation" and other appropriate headings in "Mine and Mining," "Mill and Milling," and "Miscellaneous."

and Steel Wires and Cables. [Gives curves and tabulated data showing both physical and electrical properties].—Jnl. Elect., Power & Gas. Aug. 26 1916; p 157; pp 2¼*; 35c.

Daman, Arthur C.—*The Nevada Wonder Mill*. [Describes a 150-ton cyanide process where 10 tons per man per day are handled. The distribution of electric power is contained in tables].—E. & M. J. Nov. 25 1916; p 927*; pp 2*; 25c.

DeWolfe, E. C.—*A Modern Coal Mining Organization in Illinois*. [From Electrical Mining. The equipment, operation and methods of managing at the Madison Coal Corporation's mines are reviewed].—C. Tr. Bull. Aug. 1 1916; p 43; pp 8*; 25c.

Donaldson, R. D.—*Application of Central Station Power to Lime Plants and Quarries*.—National Lime Mfg. Assn. May 1916; pp 15.

Dwight, H. B.—*Steel Conductors for Transmission Lines*.—Proc. American Inst. of Elect. Eng. Aug. 1916; p 1259; pp 12*; 35c.

Fay, Albert H.—*Monthly Statement of Coal Mine Fatalities in the United States*. [Contains a list of permissible explosives, lamps and motors tested prior to Aug. 31 1916].—Bur. of Mines Statement July 1916; pp 28.

Findlay, D. C.—*Electrification of a Modern Cement Plant*. [A description of the Oregon Portland Cement Co.'s plant].—Jnl. of Elect. Power & Gas Sept. 16 1916; p 218; pp 2*; 35c.

Flaherty, B. G.—*Testing for Defective Insulators on High Tension Transmission Lines*. [Describes methods and apparatus used].—Proc. American Inst. of Elect. Eng. Aug. 1916; p 1221; pp 15*; 35c.

Fox, Gordon.—*Direct-Current Generator Characteristics*. [The influence of machine speed on compounding and commutation].—Pract. Eng. Nov. 15 1916; p 955; pp 1¼*; 20c.

Futers, T. Campbell.—*The Mechanical Equipment of Cwm Colliery, Llantwit Fardre, South Wales*. [The hoist, shaft, steam and electric equipment at the mines are described].—Coll'y Guard. Dec. 1 1916; p 1055; pp 3*; 35c.

Gahl, Rudolph.—*Operations and Methods in Use at the Inspiration Property, Arizona*. [A flow sheet of the mill, with considerable statistical data on the dis-

tribution of power, milling and flotation work].—Mg. World Nov. 11 1916; p 825; pp 3*; 10c.

Gilman, R. E.; Fortescue, C. Le G.—*Single Phase Power Service from Central Stations*. [The unbalanced voltage in supplying single phase power from a polyphase system is explained].—Proc. A. I. M. E. Oct. 1916; p 1431; pp 21*; 35c.

Haas, Herbert.—*Diesel Engines Versus Steam Turbines for Mine Power Plants*. [Compares the advantages and costs of operating each with respect to generating electricity. Details on fuel costs are given].—Bull. A. I. M. E. July 1916; p 1171; pp 13*; 35c; Iron Age Aug. 10 1916; p 291; pp 1*; 30c.

Hellmund, R. E.—*Rating of Mine Locomotives*.—Coal Age Aug. 26 1916; p 337; pp 2; 20c.

Higgins, Will C.—*Electric Hoisting Plant of the Eagle & Blue Bell Co., Utah*. [General description of the plant, compressor and mine workings].—S. L. Mg. Rev. Nov. 15 1916; p 15; pp 2*; 25c.

Hillen, A. G.—*Mines and Mining Operations at Ely, Nevada*. [A review of operations, with specific information on power equipment being used].—Mg. World Sept. 2 1916; p 403; pp 5*; 10c.

Hines, Richard P.—*Natural Gas Operating Coal Mines*. [Speaks of a central gas-power station of the Consolidated Coal Co., W. Va., and the distribution of the electricity from this station to the mines].—C. Tr. Bull. Oct. 2 1916; p 34; pp 1½; 25c.

Hood, B. B.—*Proper Current Densities*. [Curves are given from which the proper current density for both steel and copper transmission lines may be found, together with some costs related thereto].—Met. & Chem. Engg. Nov. 15 1916; p 571; pp 2¼*; 35c.

Hubbard, Charles, L.—*Operating Costs in Combined Power and Heating Plants*.—Engg. Mag. Sept. 1916; p 869; pp 10; 35c.

Jackson, C.—*Rock Excavation in Coal Mines*. [Five types of drills are described, including electric and compressed air drills, the latter getting its air from a portable electrically driven compressor].—Coal Age July 1 1916; p 32; pp 2¼*; 20c.

Jobke, August F.—*Improved Magnetic Separator*. [A description of the author's improvement in magnetic separators. It is brought out that inertia of the particle causes it to pass the magnetic zone].—E. & M. J. Nov. 4 1916; p 817; pp 3*; 25c.

Kapp, Gisbert.—*The Principles of Elec-*

trical Engineering and Their Application. [A text and general elementary reference].—Ed. Arnold, London; book; pp 356*; \$4.

Koch, Richard.—*The Electric Safety Lamp*. [Figures on the cost of upkeep of these lamps].—Coal Age Oct. 7 1916; p 582; pp 1¼*; 20c.

Leaming, T. H.; Schlundt, Herman; Underwood, Julius.—*Comparison of the Ionization Currents Due to Equal Quantities of Radium Emanation in Different Types of Electroscopes*. [A method by which small quantities of radium may be determined].—American Electrochem. Soc. Adv. Paper 2; p 13; pp 14; 35c.

Lehr, E. E.; Minick, I. C.—*Automatically Controlled Feeder Voltage Regulators*. [On the design of the equipment].—Pract. Eng. Aug. 15 1916; p 700; pp 2¼*; 20c.

Luscomb, H. T.—*How to Select Prime Movers for Industrial Electrical Generating Plants*. [A discussion and detailed data on generating electricity from steam plants].—Engg. Mag. Aug. 1916; p 705; pp 11¼*; 35c.

Legrand, Charles.—*Power Plant of the Burro Mountain Copper Co., New Mexico*. [Electric power generated by direct connection to Diesel engines is used].—Bull. A. I. M. E. Sept. 1916; p 1531; pp 8*; 35c.

Magnusson, C. E.; Burbank, S. R.—*An Artificial Transmission Line with Adjustable Line Constants*.—Proc. American Inst. of Elect. Eng. Aug. 1916; p 1245; pp 14*; 35c.

McConahey, W. M.—*Transformer Efficiency and Regulation*. [Discusses the nature and cause of losses and their relation to efficiency. Also the effects of load and power factor variations].—Pract. Eng. Aug. 1 1916; p 650; pp 1½*; 20c.

Molesworth, Guilford L.—*Pocket Book of Engineering Formulae*. [Information on civil, mechanical and electrical engineering work].—Spon & Chamberlain, N. Y.; book; pp 936*; \$1.50.

Moore, H. W.—*Blasting Practice at Chuquicamala, Chile*. [A system of electric blasting. Tunnels are made and loaded with powder for the blasting of large blocks of ground].—M. & S. P. July 8 1916; p 60; pp 2*; 20c.

Murphy, S. J.—*A Submarine Pipe Line Across the Atlantic*. [A scheme for the under-sea transportation of oil and similar liquids].—Petro. World Nov. 1916; p 530; pp 2½*; 35c.

Musser, H. P.; Lamb, F. B.—*Practical*

Considerations Relative to Purchased Power. [Gives curves and discussion comparing the advisability of purchased power over power generated at the mine].—*Coal Age* July 1 1916; p 15; pp 2*; 20c.

Newton, G. J.—*Underground Distribution Systems.*—*Proc. American Inst. of Elect. Eng.* Aug. 1916; p 1193; pp 16*; 35c.

Norman, Fred.—*Cadogan Power Plant.* [A small, compact plant using pickable refuse for coal. Alternating current is generated and transformed into direct current].—*Coal Age* Dec. 2 1916; p 928; pp 3¼*; 20c.

Northrup, E. F.; Sherwood, R. G.—*New Method of Measuring Resistivity of Molten Materials: Results for Certain Alloys.* [Gives complete details of the method of procedure and results in some cases].—*Jnl. Franklin Inst.* Oct. 1916; p 477; pp 35*; 60c.

Pannell, Ernest V.—*Recent Developments in Aluminum.* [A number of recently found properties, both thermic and electrical].—*Trans. American Inst. of Metals* Vol. IX; p 167; pp 27*; 35c.

Pease, J. H.—*Economic Application of Electricity to Mining.* [A paper read before the Ipswich and District Mg. Inst.].—*Queen. Govt. Mg. Jnl.* Sept. 15 1916; p 434; pp 2½; 35c.

Peltier, M. F.—*Coal Mining in Northern Wyoming.* [Briefs on operations of several companies, the coal deposits and grades and methods used in mining].—*Coal Age* Nov. 18 1916; p 832; pp 2¼*; 20c.

Root, W. A.—*Aspen, Over the Range in Pitkin County, Colorado.* [The history of the camp and several of the companies operating in it are included in the description].—*Mg. World* Dec. 2 1916; p 943; pp 2¾*; 10c.

Rosa, E. B.; Vinal, G. W.—*Volume Effect in the Silver Voltameter.*—*U. S. Bur. of Stand. Sci. Paper* 283; pp 11*; 15c.

Rose, Hugh.—*Mining Practice at Santa Gertrudis, Mexico.* [Abst. from the A. I. M. E. Bulletin. Contains drawings, details and general description].—*E. & M. J.* Aug. 26 1915; p 371; pp 6*; 25c.

Roux, G. P.—*Alternating-Current Distribution.* [Discusses the advantages of 1-phase, 2-phase and 3-phase systems].—*Pract. Eng.* Dec. 1 1916; p 995; pp 2*; 20c.

Scott, W. A.—*Leadville Pumping and Drainage Projects.* [Descriptions are given of methods used and plants at various places in the district which use different kinds of power, styles of pumps

and methods of operation].—*Mg. World* Sept. 23 1916; p 533; pp 3¼*; 10c.

Scott, W. A.—*Operations of Silver King Coalition Mines Co., Park City, Utah.* [A general description of operations and equipment including pumping and hoisting].—*Mg. World* Sept. 9 1916; p 447; pp 3*; 10c.

Scott, W. A.—*Plant Construction of the New Cornelia Copper Co., Arizona.* [Electric power is used and the ores are refined by electrolysis and leaching].—*Mg. World* July 15 1916; p 89; pp 3½*; 10c.

Seede, J. A.—*Electric Arc Welding Finds Many Uses in Mines and Mills.* [The author cites and describes practical applications of repairing parts with the electric arc].—*Mg. World* July 22 1916; p 133; pp 3¼*; 10c.

Sibley, Robert.—*The Most Powerful Dredge Afloat.* [The dredge is in California and is electrically operated].—*Jnl. of Elect., Power & Gas* Nov. 11 1916; p 371; pp 3¼*; 35c.

Silsbee, Francis B.—*A Study of the Inductance of Four-Terminal Resistance Standards.* [Laboratory methods for measuring resistance of less than 1 ohm].—*U. S. Bur. of Stand. Sci. Paper* No. 281; pp 48*; 25c.

Streeter, Robert L.—*Power Equipment for Steam Plants.* [Discusses engines used in electric power generating plants].—*Engg. Mag.* Oct. 1916; p 33; pp 12*; 35c.

Taylor, W. G.—*Motor Equipment for Petroleum Recovery.* [A paper read before the American Inst. of Elect. Eng. Deals with the use of induction motors in drilling, pumping, and cleaning oil wells].—*Elect. Rev. & West. Elect.* Aug. 5 1916; p 232; pp 5½*; 20c; *West. Engg.* Oct. 1916; p 377; pp 1*; 20c.

Taylor, W. G.—*Oil Well Motor Equipment.* [A paper read before the American Inst. of Elect. Eng. Gives the electrical power and equipment needed in drilling an oil well].—*Jnl. of Elect. Power & Gas* July 1 1916; p 6; pp 2½*; 35c.

Thomson, Herbert G.—*Construction and Operation of the Nevada Packard Mill.* [A cyanide plant treating ore in which the principal mineral is cerargyrite].—*M. & S. P.* Sept. 9 1916; p 377; pp 8*; 20c.

Thomson, Lesslie R.—*High-Tension Transmission Lines and Steel Towers.* [Deals with operating costs, loads on the towers, etc.].—*Canadian Eng.* Nov. 30 1916; p 445; pp 1¾; 35c.

Thornton, W. M.—*Influence of Pres-*

sure on the Electrical Ignition of Methane. [A paper read before the British Assn., Sec. G, dealing with experimental work. Curves are shown].—Coll'y Guard. Sept. 15 1916; p 503; pp 2*; 35c.

Trapp, C. H.—*Wiring for Motor Additions.* [Describes a readily constructed runway for wires leading to machines].—Pract. Eng. Dec. 1 1916; p 994; pp 1*; 20c.

Walker, Sydney F.—*Electric Signaling with Bare Wires.* [A general talk on proper practice resulting from investigations in England].—I. & C. Tr. Rev. Sept. 8 1916; p 279; pp 1; 35c.

Warren, H. M.—*Electrical Distribution and Application in Mines.* [On the fastening and placing of cables underground in coal mines].—Coal Age July 15 1916; p 98; pp 5¼*; July 22 1916; p 138; pp 4*; 40c.

Wheeler, R. V.; Thornton, W. M.—*Electric Signaling with Bare Wires.* [Report on the danger of ignition of inflammable gaseous mixtures by the break-flash of the signal wires].—His Majesty's Stationery Office, London; 85c.

Yeatman, Pope.—*Mine of Chile Exploration Co., Chuquicamata, Chile.* [A paper read before the Pan-American Sci. Cong. The history, geology, reserves, power plant and testing of hydrometallurgical treatment of the ores are included].—Teniente Topics Aug. 1916; p 1; pp 18*; 35c.

——— *Baku Russian Petroleum Co., Russia.*—Petro. World Sept. 1916; p 426; pp 3; 35c.

——— *Costs of Operating Electric Cap Lamps.*—Coal Age July 1 1916; p 17; pp ¼; 20c.

——— *Construction and Operating Data on Diesel Engines.* [From a report of the committee on Prime Movers of the N. E. L. A., giving information for making estimates and curves for rapid calculation].—Pract. Eng. Nov. 15 1916; p 957; pp 1; 20c.

——— *Cap Lamp with New Feature.* [An electric lamp with a straight filament passing horizontally across the reflector].—Coal Age Dec. 2 1916; p 918; pp 1¼*; 20c.

——— *Coedely Colliery, England.* [Describes the power plant and general surface equipment, with some details].—I. Tr. Rev. Dec. 8 1916; p 693; pp 3*; 35c.

——— *Construction of a Big Plant.* [General arrangement and some special construction features at the Public Service Electric Co.'s Plant, Essex, New Jersey].—Pract. Eng. Sept. 1 1916; p 727; pp 15*; 20c.

——— *Diesel Engines Versus Steam Turbines for Mine Power Plants.* [Discussion of a paper by Herbert Haas].—A. I. M. E. Bull. 1916; p 2213; pp 9; 35c.

——— *Electric Winding in South Yorkshire Collieries, England.*—Coll'y Guard. Aug. 18 1916; p 301; pp 1½*; 35c.

——— *Electric Signaling in Collieries.*—I. & C. Tr. Rev. Oct. 13 1916; p 453; pp 1*; 35c.

——— *Electric Signaling in Mines.*—Coll'y Guard. July 28 1916; p 157; pp 8*; 35c.

——— *Equipment of the Valleyfield Colliery.* [Gives drawings and description of the steam-turbo and electric plants, besides a description of the coal washing plant and fan and boiler house].—Coll'y Guard. Nov. 17 1916; p 951; pp 2½*; 35c.

——— *1500-K. W. Geared Turbo Alternator.* [Abst. from Engineering on an installation at an English plant].—Electrician Oct. 13 1916; p 40; pp 3½*; 35c.

——— *G-E Miners' Lamp Approved* by the U. S. Bureau of Mines.—Mg. World Nov. 18 1916; p 869; pp 1¼*; 10c.

——— *Gold Dredging in Yukon.* [Abstract of a paper published by the Minister of Interior, Canada. The doings and equipment of operating companies in the district are reviewed].—Canadian Mg. Jnl. Nov. 15 1916; p 535; pp 10¼*; 35c.

——— *Motor-Driven Compressor at Britannia Colliery.* [General layout drawings and description of the installation are given].—I. & C. Tr. Rev. Oct. 6 1916; p 413; pp 2*; 35c.

——— *Mount Morgan Mine and Works, Australia.* [Describes the sintering and converting plant equipment and operations. Also the electric power plant using turbines].—Mg. & Engg. Rev. Aug. 5 1916; p 278; pp 6¼*; 35c.

——— *Portable Electric-Driven Air Compressors for Mines.*—Mg. World Aug. 19 1916; p 331; pp ¼*; 10c.

——— *Power Supply of the Rand.* [The inaugural address of the new president of the South African Inst. of Eng.].—S. Afr. Mg. Jnl. Sept. 9 1916; p 39; pp 3; 35c.

——— *Ray Consolidated Copper Co., Developing the Property with an Electric Dragline Excavator.* [Describes an electrically operated dragline excavator mounted on caterpillars at Hayden, Ariz.].—Excavating Eng. Dec. 1916; p 95; pp 3½*; 20c.

——— *Russian Mines, Growth of Electrical Equipment in.* [Gives details

as to the number, size, etc., of electrical plants at mines in Russia].—C. Tr. Bull. Oct. 2. 1916; p 47; pp 3½; 25c.

——— *Surface Plant at Brodsworth Main Colliery, England.* [Turbines using mixed pressure steam are used. Hoist, boilers, compressed air, etc., are described].—Coll'y Guard. Sept. 1 1916; p 401; pp 1½*; 35c.

——— *Unfälle in elektrischen Betrieben auf den Bergwerken Preussens im Jahre 1913.* [Accidents in electrical work in the mines of Prussia in 1913].—Zts. Berg, Hütten & Salinenw. Band 62, 1914; p 343; pp 241½*; \$1.50.

——— *United States Metals Refining Co.'s Plant, Grasselli, Indiana.* [A description of the steam and electric power plants at the electrolytic lead refinery].—Pract. Eng. Aug. 1 1916; p 641; pp 4½*; 20c.

Hydroelectric

Chapin, Theodore; Canfield, George H. —*Mining Developments and Water-Power Investigation in Southeastern Alaska.* [The gold and copper mines are described by districts in which they are located and reviews are made of sources of water power].—U. S. G. S. Bull. 642-B; pp 55*.

Clark, Walter C.—*Electricity at the Bunker Hill & Sullivan Mines, Idaho.* [On the equipment and use of electricity in the mills, rock house, for pumping, hoisting, haulage and signaling].—Jnl. Elect. Power & Gas. Dec. 23 1916; p 483; pp 3¼*; 35c.

Miller, Benjamin Leroy; Singewald, J. T.—*The Gold Mines of Brazil.* [The two most noted mines are described. The power question, mining and refining of the ore are dealt with].—E. & M. J. July 29 1916; p 207; pp 5*; 25c.

Pierce, H. J.—*Federal Water-Power Legislation.* [An address before the National Elect. Light Assn. on the conservation of coal and oil by using hydroelectric power and the lack of congress to provide for such development].—U. S. Senate Document 468; pp 12.

Pierce, H. J.—*Necessity for Water Power Development.* [A discussion of the question of hydro-electric installations which are today being held back some].—Mg. World July 15 1916; p 103; pp 1¼; 10c.

Strong, William.—*Electro-Metallurgical Uses of Surplus Power.* [On the possible uses to which the excess hydroelectric power of our western states might be put].—Jnl. Elect. Power & Gas July 15 1916; p 43; pp 3*; 35c.

——— *Analysis of Merrill Report on Water-Power.* [Comment on this government report is made, saying that the information and conclusions are at error].—Elect. World July 1 1916; pp 20; 40c.

——— *Braden Copper Co.'s Hydro-electric Installation in 1909.* [Translated from Estadística Minera de Chile].—Teniente Topics June 1916; p 7; pp 4*; 35c.

——— *Swedish State Hydro-Electric Power Station at Alfkärlaby, Sweden.*—Engg. July 14 1916; p 29; pp 3*; 35c. 21 1916; p 51; pp 8*; 35c.

COMPRESSED AIR

Ayer, Frank.—*Reducing Air-Drill Repair Costs.* [A general talk pointing out various ways by which this cost can be reduced].—E. & M. J. Nov. 11 1916; p 864; pp 2*; 25c.

Balcomb, J. C.—*A Remarkable Tunnel Rapidly Driven in Brazil.* [Gives details of operation, with drawings. A bonus system and unusual method of blasting are described].—Comp. Air July 1916; p 8040; pp 5*; 20c.

Buffum, F. D.—*Compressed Air for Sinking a Shaft.* [Abst. from Coal Age. Deals with methods of piping and handling the compressed air which was used entirely for power. Remedies for difficulties encountered are given].—Comp. Air July 1916; p 8048; pp 3*; 20c.

Burch, H. K.—*The Inspiration Mine Plant.* [Abst. from a paper read before the A. I. M. E. Describes the equipment and methods used for handling the ore from the mine, both underground and on the surface].—E. & M. J. Sept. 23 1916; p 537; pp 5¼*; 25c.

Capron, W. C.; Kuzell, C. R.—*Metalurgical Works Tramways.* [Reviews and discusses the use of different types of locomotives used about smelters and in some cases gives cost data on their operation].—E. & M. J. Oct. 27 1916; p 613; pp 8*; 25c.

Chodzko, A. E.—*The Hydraulic Air-Compressor.* [Reviews the theory of the hydraulic compression of air and speaks of the possibilities of developing this natural resource on the Pacific coast].—M. & S. P. Dec. 16 1916; p 879; pp 5*; 20c.

Collins, V. B.—*Coal-Cutting by Machinery in the Newcastle and Maitland Districts, N. S. W.* [Machines operated by electricity and compressed air are described and discussed].—Northern Engg. Inst. of N. S. W. April Proc.; p 25; pp 30*; 50c.

Dixon, C. Y.—*Plant and Method of Dry Excavation, Livingstone Channel, Detroit River, Michigan*. [From Professional Memoirs. Pumping, drilling, costs, equipment used, etc., are included in this review].—Engg. & Cont. Nov. 15 1916; p 425; pp 2*; 25c.

Gabelein, Paul W.—*Air Lifts at a Cyanide Plant*. [From the E. & M. J. describing this type of installation at the Baker Mines Co., Oregon].—Comp. Air Aug. 1916; p 8075; pp 1¾*; 20c.

Gillette, Halbert Powers.—*Handbook of Rock Excavation Methods and Costs*. [Details regarding the different methods used in rock excavation, as drilling, explosives, etc.].—Clark Book Co.; book; pp 835*; \$5.

Green, Raoul.—*Actual Costs of Mine Haulage by Horses and by Compressed Air*. [A paper read before the Canadian Mg. Inst., giving actual costs under varying conditions].—Mg. World Oct. 7 1916; p 625; pp 1¼; 10c; Comp. Air Sept. 1916; p 8116; pp 2; 20c.

Green, R.—*Horse Haulage vs. Compressed Air Haulage at Collieries*. [In discussing the subject a comparison of actual costs is made].—Canadian Mg. Inst. Bull. Aug. 1916; p 711; pp 6; 35c.

Higgins, Will C.—*Electric Hoisting Plant of the Eagle & Blue Bell Co., Utah*. [General description of the plant, compressor and mine workings].—S. L. Mg. Rev. Nov. 15 1916; p 15; pp 2*; 25c.

Hicks, H. L.—*Compressed Air at Rockland Lake Quarry, New York*. [Describes drilling and blasting operations, with some information on the general operation of the quarry].—Comp. Air July 1916; p 8045; pp 4*; 20c.

Howard, L. O.—*The Basic-Lined Converter in the Southwest*. [A general review, with details].—Bull. A. I. M. E. Sept. 1916; p 1539; pp 5; 35c.

Jackson, C.—*Rock Excavation in Coal Mines*. [Five types of drills are described, including electric and compressed air drills, the latter getting its air from a portable electrically driven compressor].—Coal Age July 1 1916; p 32; pp 2¼*; 20c.

Johnson, J. E., Jr.—*The Rate of Driving the Blast Furnace*. [The effects resulting from too slow or fast a rate are discussed in detail in particular on the power requirements for blowing and fuel consumption].—Met. & Chem. Engg. July 1 1916; p 21; pp 4¾*; 30c.

Jorgensen, F. F.—*Air Pressure Mine Sprinkling Car*. [Drawings are shown, with a description of its construction and

operation].—Comp. Air Nov. 1916; p 8179; pp 1½*; 20c.

Kirkland, H. B.—*Pneumatic Concreting of the Van Buren Street Tunnel*. [Some tables of details are given].—Mine & Quarry Oct. 1916; p 937; pp 2½*; 20c.

Klingenberg, G.—*The Transmission of Compressed Air on the Rand, South Africa*. [Abst. from "Large Electric Power Stations"].—S. Afr. Engg. July 1916; p 2; pp 2*; 35c.

Lucht, F. W., Jr.—*A Study of the Compressor Indicator Diagram*. [Discusses theory principally].—Colo. School of Mines Q'tly July 1916; p 16; pp 4*; 35c.

Parker, S. M.—*Plant of the Babylonia Gold Mines, Nicaragua*. [Detailed description of the cyanide plant, which uses pneumatic stamps, and the results obtained at the plant in the various steps of the process].—M. & S. P. Dec. 23 1916; p 911; pp 4*; 20c.

Potter, A. A.; Buck, W. A.—*Internal Combustion Engines as Applied to Tractors*. [A paper read before the A. S. M. E.].—Pract. Eng. Dec. 15 1916; p 1031; pp 1½; 20c.

Root, W. A.—*Aspen, Over the Range in Pitkin County, Colorado*. [The history of the camp and several of the companies operating in it are included in the description].—Mg. World Dec. 2 1916; p 943; pp 2¾*; 10c.

Rossback, E. J.—*Tunnel Construction on the Mill Creek Sewer*. [Methods of operating, drilling, compressed air equipment, lining with concrete and brick, etc., are among things described].—Mine & Quarry Oct. 1916; p 907; pp 11*; 20c.

Schultz, J. E. M.—*Central Air Plant at a Georgia Quarry*. [The quarry, compressor plant and equipment are described].—Mine & Quarry Oct. 1916; p 924; pp 5*; 20c.

Simons, Theodore.—*Efficiency of Compressed Air Installations*. [One pound of air is followed through the stages of compression, transmission and use and the efficiency calculated. This is followed by suggestions in the design of compressed air equipment to give better efficiency].—E. & M. J. Dec. 16 1916; p 1047; pp 3½; Dec. 23 1916; p 1087; pp 3¼*; 50c.

Smith, Philip H.—*Unsolved Problems of the Diesel Engine*.—Petro. World Sept. 1916; p 438; pp 1½; 35c.

Stone, J. P.—*Compressed Air vs. Steam for Steam Hammers*. [An instance where compressed air is more economical than steam].—Pract. Eng. Aug. 15 1916; p 703; pp 1½; 20c.

Symons, S. W.—*Compressed-Air Coal*

Cutters in Canadian Mines. [The drill is somewhat similar to the ordinary post rock drill].—*Coal Age* July 1 1916; p 28; pp 1¼*; 20c.

Tournay-Hinde, A. W.—*The Flow of Air in Lead Blast Furnaces.* [A paper read before the Engg. Assn. of New South Wales. Reviews investigations made along this line in Australia].—*Mg. & Engg. Rev.* June 5 1916; p 229; pp 1¼; 35c.

Tillson, B. F.—*Hammer Drill Records at the Franklin Mines, New Jersey.* [From a paper read before the A. I. M. E. Results obtained in drifting, stoping, raising, etc., are given with costs].—*Comp. Air* Sept. 1916; p 8123; pp 2½; 20c.

Warren, H. M.—*Electrical Distribution and Application in Mines.* [Speaks of the use of electricity for pumps, hoists, locomotives, drilling and air compression].—*Coal Age* July 22 1916; p 138; pp 4*; 20c.

Fullerton, Hodgart and Barclay—*Vertical Air Compressor.* [Sectional and plain views are shown].—*I. & C. Tr. Rev.* Aug. 4 1916; p 132; pp 2*; 35c.

Indicator Diagrams from Air Compressors. [From Power, showing reproductions from several indicator cards].—*E. & M. J.* Dec. 16 1916; p 1046; pp 1*; 25c.

Motor-Driven Compressor at Britannia Colliery. [General layout drawings and description of the installation are given].—*I. & C. Tr. Rev.* Oct. 6 1916; p 413; pp 2*; 35c.

Portable Electric-Driven Air Compressors for Mines.—*Mg. World* Aug. 19 1916; p 331; pp ¾*; 10c.

Power Supply of the Rand. [The inaugural address of the new president of the South African Inst. of Engg.].—*S. Afr. Mg. Jnl.* Sept. 9 1916; p 39; pp 3; 35c.

Recent Developments in Drilling Apparatus. [Describes recent patents for equipment to be used with rock drills].—*Mg. World* Oct. 21 1916; p 705; pp 1¼; 10c.

Recent Improvement in Air Compressors.—*Mine & Quarry* Oct. 1916; p 930; pp 5½*; 20c.

Snake Creek Tunnel, Utah. [A concrete tunnel. The construction and methods used in driving it are described].—*M. & S. P.* Aug. 5 1916; p 205; pp 2*; 20c.

Surface Plant at Brodsworth Main Colliery, England. [Turbines using mixed pressure steam are used. Hoist, boilers, compressed air, etc., are described].—*Colly Guard.* Sept. 1 1916; p 401; pp 1½*; 35c.

COMBUSTION ENGINES

Capron, W. C.; Kuzell, C. R.—*Metalurgical Works Tramways.* [Reviews and discusses the use of different types of locomotives used about smelters and in some cases gives cost data on their operation].—*E. & M. J.* Oct. 7 1916; p 613; pp 8*; 25c.

Clapp, W. Howard.—*Economics and Costs of Motor Truck Operation.* [A paper read before the Amer. Soc. of Mech. Eng. The costs of trucks and various details in the cost of their operation is given].—*Canadian Eng.* Nov. 9 1916; p 383; pp 3¾*; 35c.

Clapp, W. B.—*Motor Truck Development.* [Abstract of a paper read before the A. I. of Mech. Eng. A table showing operating costs for trucks making various mileages per day is given].—*Mg. Jnl.* Nov. 4 1916; p 735; pp 1¼; 35c.

Clarke, Thomas C.—*The By-Product Oven an Adjunct to Preparedness.* [A paper read before the Soc. of Chem. Ind.].—*Coal Age* Aug. 26 1916; p 342; pp 1¼; 20c.

Daugherty, S. R.—*Heavy-Oil Engines.* [Abstract of a paper read before the A. I. of Mech. Eng.].—*Canadian Eng.* Nov. 2 1916; p 362; pp 1¼; 35c.

Garrard, A.—*Gas, Oil and Petrol Engines.* [Deals with the history of combustion engines, their construction and use and the operation of equipment used in connection with them].—Whittaker & Co., London; book; pp 221*; \$1.50.

Gochnauer, H. W.—*Pumping Costs with Diesel Engines.*—*Engg. Rec.* April 1 1916; 20c.

Haas, Herbert.—*Diesel Engines Versus Steam Turbines for Mine Power Plants.* [Compares the advantages and costs of operating each with respect to generating electricity. Details on fuel costs are given].—*Bull. A. I. M. E.* July 1916; p 1171; pp 13*; 35c; *Iron Age* Aug. 10 1916; p 291; pp 1*; 30c.

Hays, Joseph W.—*Semi-Technical Studies in Physical Science.* [On the way a gas engine operates].—*Steam* Sept. 1916; p 66; pp 3; 35c.

Hines, Richard P.—*Natural Gas Operating Coal Mines.* [Speaks of a central gas-power station of the Consolidated Coal Co., W. Va., and the distribution of the electricity from this station to the mines].—*C. Tr. Bull.* Oct. 2 1916; p 34; pp 1¼; 25c.

Legrand, Charles.—*Power Plant of the Burro Mountain Copper Co., New Mexico.* [Electric power generated by direct connection to Diesel engines is used].—

Bull. A. I. M. E. Sept. 1916; p 1531; pp 8*; 35c.

Scott, W. A.—*Operations at Battle Mountain, Nevada*.—Mg. World Aug. 19 1916; p 327; pp 2*; 10c.

Shafer, C. W.—*Two-Crank, Four-Cylinder Combustion Engine*. [A new arrangement for four-cylinder combustion engines].—Pract. Eng. Aug. 15 1916; p 706; pp 1½*; 20c.

Smith, P. H.; Primrose, H.—*Cylinder Liner Wear and Remarks on Piston Seizures*. [The information is on Diesel and other types of internal-combustion engines].—Petro. World Nov. 1916; p 540; pp 5*; 35c.

Watkinson, W. H.—*Starting Diesel Engines with Low Compression*. [A paper read before Sec. G of the British Assn. Treats on experiments made to show the possibility of running Diesel engines with low-compression].—Engg. Sept. 22 1916; p 290; pp 1*; 35c.

Wilkins, F. Trevor.—*Diesel Engine Trials*. [A paper read before the Inst. of Mech. Eng., England. Details of tests of various kinds are given].—Engg. Oct. 27 1916; p 422; pp 4*; 35c.

——— *Construction and Operating Data on Diesel Engines*. [From a report of the committee on Prime Movers of the N. E. L. A., giving information for making estimates and curves for rapid calculation].—Pract. Eng. Nov. 15 1916; p 957; pp 1; 20c.

——— *Diesel Engines Versus Steam Turbines for Mine Power Plants*. [Discussion of a paper by Herbert Haas].—A. I. M. E. Bull. 1916; p 2213; pp 9; 35c.

——— *Power Plant of the Burro Mountain Copper Co., New Mexico*. [Discussion of a paper by Chas. Legrand].—A. I. M. E. Bull. Dec. 1916; p 2181; pp 2½; 35c.

——— *The Diesel Engine*. [From a paper read before the N. E. L. A.].—Pract. Eng. July 15 1916; p 615; pp 1½*; 20c.

STEAM AND STEAM ENGINES

Bowron, Charles E.—*Factors Governing the Efficiency of Steam Plants*. [A general discussion of the subject read before the Alabama Coal Operators' Assn.].—Coal Age Sept. 30 1916; p 539; pp 2½; 20c.

Buck, H. W.—*Comparisons Between Steam and Water Power*. [Discussion of the two forms of power and their application].—Mg. World Aug. 26 1916; p 373; pp 1½; 10c.

Crawford, C. W.—*When the Boiler Attacks the Engine*. [On the use of and trouble occurring from moisture in steam in excessive quantities].—Coal Age Dec. 16 1916; p 1010; pp 1½; 20c.

Crawford, C. W.—*The Steam Engine's Extravagance*. [A general discussion on the use of different designs of steam engines].—Coal Age Aug. 26 1916; p 351; pp 1½; 20c.

DeWolfe, E. C.—*A Modern Coal Mining Organization in Illinois*. [From Electrical Mining. The equipment, operation and methods of managing at the Madison Coal Corporation's mines are reviewed].—C. Tr. Bull. Aug. 1 1916; p 43; pp 8*; 25c.

Dorman, H. R.—*Data on the Use of Water Softener for Boiler Feed Water*. [A paper read before the Wisconsin Soc. of Eng.].—Chem. Eng. & Mfg. July 1916; p 22; pp 1½*; 30c.

Fulton, A. D.; Parlett, R. C.—*The Effect of Surface Conditions Upon the Rate of Heat Transmission Through Steam Pipe Coverings*. [A thesis on the rate of heat transmission as noted from tests].—Wis. Eng. Nov. 1916; p 67; pp 8*.

Futers, T. Campbell.—*The Mechanical Equipment of Cwm Colliery, Llantwit Fardre, South Wales*. [The hoist, shaft, steam and electric equipment at the mines are described].—Coll'y Guard. Dec. 1 1916; p 1055; pp 3*; 35c.

Gage, Victor R.—*A Study of Heat Transmission in Steam Boilers*. [The tests were run on different types of boilers and the results are plotted onto curves. Formulas are also derived].—Sibley Jnl. Nov. 1916; p 29; pp 10½*; 30c.

Gillette, Halbert Powers.—*Handbook of Rock Excavation Methods and Costs*. [Details regarding the different methods used in rock excavation, as drilling, explosives, etc.].—Clark Book Co.; book; pp 835*; \$5.

Haas, Herbert.—*Diesel Engines Versus Steam Turbines for Mine Power Plants*. [Compares the advantages and costs of operating each with respect to generating electricity. Details on fuel costs are given].—Bull. A. I. M. E. July 1916; p 1171; pp 13*; 35c.

Haas, Herbert.—*The Diesel Engine*. [A paper read before the A. I. M. E. Its field in comparison with the steam-turbine in a large plant. Costs are given].—Iron Age Aug. 10 1916; p 291; pp 1*; 30c.

Hayes, J. W.—*How to Build Up Furnace Efficiency*.—J. W. Hayes, Chicago; book; pp 154*; \$1.

Hirshfeld, C. F.; Ulbricht, T. C.—

Steam Power. [An up-to-date treatise of an elementary nature dealing with engines and accessories to be used as a text in colleges, though it is of no value to operators].—John Wiley & Sons; book; pp 420*; \$2.

Hirshfield, C. F.—*Steam Power*. [An elementary treatise on the subject, omitting the deeper mathematics of the subject and the theory of thermodynamics].—Wiley & Sons; book; pp 420*; \$2.

Hutzel, H. F.—*Chart for Determining Heat Loss in Flue Gases*. [Taken from an article in *Power*. Description and formulas are given, together with a reproduction of the chart].—E. & M. J. Dec. 23 1916; p 1091; pp 1¼*; 25c.

Hubbard, C. L.—*Boiler and Piping Arrangements for Small Central Plants*.—Steam July 1916; p 3; pp 2¼*; 35c.

Hubbard, Charles L.—*Making the Steam Plant Adequate for Both Power and Heating*. [Details on the operation of such a combination].—Engg. Mag. Aug. 1916; p 716; pp 7; 35c.

Hubbard, Charles L.—*Operating Costs in Combined Power and Heating Plants*.—Engg. Mag. Sept. 1916; p 869; pp 10; 35c.

Hubbard, C. L.—*Steam Requirements for Power and Heating*. [General and detailed information on the design and operation of steam plants].—Engg. Mag. July 1916; p 553; pp 9*; 35c.

Hubbard, Charles L.—*Steam Traps*. [Describes the use and construction of special types].—Steam Sept. 1916; p 69; pp 2*; 35c.

Keller, J. H.—*New Empirical Formulae for Hot Water Heating, with Pipe Sizes for Two-Pipe Systems*.—Steam July 1916; p 11; pp 2; 35c.

Lamb, M. R.—*Don Luis Charmé's Tre-main Steam Stamp*. [Some details of worries which come to consignees of mining machinery in South America].—E. & M. J. July 1 1916; p 17; pp 2¼*; 25c.

Luscomb, H. T.—*How to Select Prime Movers for Industrial Electrical Generating Plants*. [A discussion and detailed data on generating electricity from steam plants].—Engg. Mag. Aug. 1916; p 705; pp 11½*; 35c.

McMillan, L. B.—*The Heat Insulating Properties of Commercial Steam Pipe Coverings*. [Abst. from the Jnl. of the American Soc. of Mech. Eng.].—Steam Oct. 1916; p 97; pp 8½*; 35c.

Mossman, R. L.—*Construction of Combustion Instruments*. [Describes methods for making gas analyzer and draft gage].—Pract. Eng. Aug. 15 1916; p 697; pp 1½*; 20c.

Newman, M. F.—*Methods of Softening and Filtering Mine Water*. [Describes a plant for filtering the water so as to make it suitable for use in boilers].—Mg. World Dec. 9 1916; p 986; pp 2¼*; 10c.

O'Neill, Haylett.—*Estimating Condensing Water*. [Reproduction of a chart is given].—Pract. Eng. Nov. 15 1916; p 951; pp 1½*; 20c.

Painter, Walter.—*Virginia Power Co. Coal and Ash Tower*. [Describes a tower arrangement for the handling of coal and ashes].—Pract. Eng. Dec. 1 1916; p 985; pp 1*; 20c.

Peabody, Ernest H.—*Oil Fuel*. [On the use of forced draft and blowers in using oil fuel for generating steam].—Pract. Eng. Sept. 1 1916; p 737; pp 2¼*; 20c.

Poyner, J. M.—*Centralized Power Plant*. [Speaks in general of the central power plant equipment and the transmission of the current to various points where it is used].—Coal Age Dec. 16 1916; p 1007; pp 3*; 20c.

Pratt, Arthur D.—*The Utilization of Waste Heat for Steam Generating Purposes*. [A paper read before the American Soc. of Mech. Eng. Speaks of the utilization of waste heat from metallurgical furnaces and describes installations of this type in general].—Met. & Chem. Engg. Dec. 15 1916; p 696; pp 11¼*; 35c.

Schiefer, H. V.—*Handling Coal in Large Boiler Houses*.—Coal Age Aug. 26 1916; p 349; pp 2*; 20c.

Stone, J. P.—*Compressed Air vs. Steam for Steam Hammers*. [An instance where compressed air is more economical than steam].—Pract. Eng. Aug. 15 1916; p 703; pp 1½; 20c.

Streeter, Robert L.—*Power Equipment for Steam Plants*. [Discusses engines used in electric power generating plants].—Engg. Mag. Oct. 1916; p 33; pp 12*; Nov. 1916; p 193; pp 13*; 70c.

Streeter, Robert L.—*Power Equipment for Power Plants*. [Different kinds of boilers are described and the work to which each is peculiarly adapted is spoken of.].—Industrial Management Dec. 1916; p 355; pp 17*; 35c.

Streeter, Robert L.—*Power Equipment for Steam Plants*. [Discusses the construction and uses of different types of turbines].—Engg. Mag. Sept. 1916; p 879; pp 14*; 35c.

Taggart, James M.—*Heat Distributions and Economies in a Steam Power Plant*.—Steam Sept. 1916; p 63; pp 4*; 35c.

White, A. E.; Wood H. F.—*Recrystallization of Boiler Tubes*. [A paper read before the American Soc. of Testing Ma-

terials].—Iron Age July 6 1916; p 20; pp 1¼; 30c.

— *Blowoff Valves and Systems*. [On methods of installing and the selection of the most adaptable type for particular uses].—Pract. Eng. July 1 1916; p 565; pp 3¼*; 20c.

— *Boilers Heated by Coke-Oven Gas*. [Drawings of installations are shown and methods of operation described].—I. & C. Tr. Rev. Aug. 25 1916; p 213; pp 3½*; Sept. 8 1916; p 280; pp 1½*; 70c.

— *British Association for the Advancement of Science*. [A report of the Fuel Economy Committee, dealing with the use, consumption and conservation of coal in different industries].—Coll'y Guard. Sept. 15 1916; p 499; pp 4*. I. & C. Tr. Rev. Sept. 15; p 299; pp 5*; 35c.

— *Coal Miners' Pocketbook*. [Gives rules, principles, formulas and tables].—McGraw-Hill Co.; book; pp 1172*; \$4.

— *Coedely Colliery, England*. [Describes the power plant and general surface equipment, with some details].—I. Tr. Rev. Dec. 8 1916; p 693; pp 3*; 35c.

— *Construction of a Big Plant*. General arrangement and some special construction features at the Public Service Electric Co.'s Plant, Essex, N. J.].—Pract. Eng. Sept. 1 1916; p 727; pp 15*; 20c.

— *Cost of Coal and Oil as Fuel*. [Abst. from Power. The cost of steam per pound is given, with the evaporation per pound of coal and B. T. U. per gallon of oil].—E. & M. J. July 8 1916; p 93; pp 1¼*; 25c.

— *1500-K. W. Geared Turbo Alternator*. [Abst. from Engineering on an installation at an English plant].—Electrician Oct. 13 1916; p 40; pp 3½*; 35c.

— *Indicators*. [Indicators for testing the pressure and stroke of engines are described, various makes being included].—Pract. Eng. Dec. 1 1916; p 987; pp 2¼*; 20c.

— *Mechanical Equipment at Point-No-Point*. [Details of coal, water and steam handling at the Essex plant of the Public Service Electric Co., New Jersey].—Pract. Eng. Sept. 15 1916; p 771; pp 15¼*; 20c.

— *Mount Morgan Mine and Works, Australia*. [Describes the sintering and converting plant equipment and operations. Also the electric power plant using turbines].—Mg. & Engg. Rev. Aug. 5 1916; p 278; pp 6¼*; 35c.

— *Principios y Aplicaciones de los Indicadores para Maquinas de Vapor*.

[The principals and application of indicators for steam engines].—Ing. & Contrista Sept. 1916; p 19; pp 4½; 35c.

— *Power Supply of the Rand*. [The inaugural address of the new president of the South African Inst. of Eng.].—S. Afr. Mg. Jnl. Sept. 9 1916; p 39; pp 3; 35c.

— *Prices of Machinery for Mines*. [The average prices for mine equipment are plotted in curves for separate classes of machinery according to the size and capacity].—Coal Age July 1 1916; p 22; pp 3*; 20c.

— *Principos y Aplicaciones de los Indicadores para Maquinas de Vapor*. [Principals of application for the steam indicator].—Ing. & Contrista Oct. 1916; p 93; pp 4¼*; 35c.

— *Station Operation*. [From a report of the National District Heating Assn. A board containing recorders and other devices are described as a means tending towards efficiency].—Pract. Eng. Dec. 1 1916; p 991; pp 3*; 20c.

— *Steven's Under-Feed Stoker*.—Pract. Eng. Sept. 1 1916; p 764; pp 1½*; 20c.

— *Steam Flow Into a Compound Steam-Turbine*. [Deals with the development of several formulas by use of calculus].—Engg. July 7 1916; p 1; pp 2*; 35c.

— *Surface Plant at Brodsworth Main Colliery, England*. [Turbines using mixed pressure steam are used. Hoist, boilers, compressed air, etc., are described].—Coll'y Guard. Sept. 1 1916; p 401; pp 1½*; 35c.

— *United States Metals Refining Co.'s Plant, Grasselli, Indiana*. [A description of the steam and electric power plants at the electrolytic lead refinery].—Pract. Eng. Aug. 1 1916; p 641; pp 4½*; 20c.

GAS PRODUCERS; PRODUCER GAS

Greaves-Walker, A. F.—*The Operation of a Producer Gas Fired Chamber Kiln*.—B. & C. Rec. Oct. 3; p 595; pp 3¼*; Oct. 17 1916; p 711; pp 2½*; 70c.

Morgan, G. T.—*Some Chemical Aspects of the Peat Problem*. [Reprint from the Irish Technical Jnl. Treats on the using of this resource for making gas and ammonia products].—Jnl. of American Peat Soc. July 1916; p 141; pp 10*.

Norman, Fred.—*Cadogan Power Plant*. [A small, compact plant using pickering refuse for fuel. Alternating current

is generated and transformed into direct current].—Coal Age Dec. 2 1916; p 928; pp 3¼*; 20c.

Taggart, James M.—*Heat Distributions and Economies in a Steam Power Plant*. [Discusses steam generating plants from a thermal viewpoint].—Steam Dec. 1916; p 153; pp 2½*; 35c.

Trautschold, R.—*Gas Producer Control*.—Pract. Eng. July 15 1916; p 614; pp 1½; 20c.

—*Diesel Engines Versus Steam Turbines for Mine Power Plants*. [Discussion of a paper by Herbert Haas].—A. I. M. E. Bull. 1916; p 2213; pp 9; 35c.

—*Equipment of the Valleyfield Colliery*. [Gives drawings and description of the steam-turbo and electric plants, besides a description of the coal washing plant and fan and boiler house].—Coll'y Guard. Nov. 17 1916; p 951; pp 2½*; 35c.

—*Lynn-Rambush Gas-Producer*. [Drawings and illustrations showing its operation and construction].—Engg. Aug. 11 1916; p 127; pp 1*; 35c.

—*Wood-Gas Producer at the Hampden Mine*. [Drawings and description of a piece of equipment for the making of gas from wood].—Mg. Mag. Nov. 1916; p 280; pp 2*; 50c.

MISCELLANEOUS POWER AND MACHINERY

Abady, Jacques.—*Soot Blowers*. [A paper read before the Nottingham Guild of the Mechanical and Electrical Engineers, giving the advantages and operating methods of mechanical soot blowers].—Pract. Eng. Oct. 1 1916; p 827; pp 4½*; 20c.

Bain, Foster H.—*Labor Problems in African Mines*. [Treats on the question of working and living conditions, with respect to sanitation].—Mg. Mag. Oct. 1916; p 199; pp 10; 50c.

Brown, J. F. K.—*Imagination Applied to Mining*. [A review of the possible future as regards the transmission of electric power, pumping, etc. The cases are purely hypothetical].—Coal Age July 22 1916; p 142; pp 2¾; 20c.

Buck, H. W.—*Comparisons Between Steam and Water Power*. [Discussion of the two forms of power and their application].—Mg. World Aug. 26 1916; p 373; pp 1½; 10c.

Cooper, Stanley G.—*The Production and Use of Power and Its Relation to Fuel Economy*.—I. & C. Tr. Rev. June 30 1916;

p 743; pp 1½*; July 14 1916; p 44; pp 1*; 70c.

Fouhy, W. J.—*The Merits of Oil and Grease Lubrication*. [Discusses the question of lubrication, citing much specific data].—Mg. World July 15 1916; p 95; pp 2¾; 10c.

Gahl, Rudolph.—*Operations and Methods in Use at the Inspiration Property, Arizona*. [A flow sheet of the mill, with considerable statistical data on the distribution of power, milling and flotation work].—Mg. World Nov. 11 1916; p 825; pp 3*; 10c.

Haas, Herbert.—*The Diesel Engine*. [A paper read before the A. I. M. E. Its field in comparison with the steam-turbine in a large plant. Costs are given].—Iron Age Aug. 10 1916; p 291; pp 1*; 30c.

Huac, A. J.—*Cost Accounting for the Clay Plant*. [A series of articles, including forms, tables and description for a complete cost accompanying system].—B. & C. Rec. Aug. 15 1916; p 307; pp 3; 35c.

Kent, Robert Thurston.—*Power Transmission by Leather Belting*. [Tables, formulas, theory and practical information regarding the practical use of belting in power transmission are given].—Wiley & Sons; book; pp 114*; \$1.25.

Kent, Robert T.—*Power Transmission by Leather Belting*.—Wiley & Sons; book; pp 114*; \$1.25.

Kimball, G. H.—*A Serviceable Oiling System*. [On the development of a unit engine oiling system for reusing oil].—Pract. Eng. Oct. 1 1916; p 831; pp 1½*; 20c.

Mann, F. W.—*Lubrication and Lubricating Oils*. [From an address before the American Petroleum Soc., dealing on the theory of lubrication and the properties and requirements of good lubricants].—Pract. Eng. Oct. 1 1916; p 833; pp 1½; 20c.

McBride, W. G.—*Some Records of Motor Truck Mine Haulage Costs and Experience*. [Abst. from a paper in the A. I. M. E. Bull. Detailed costs are given and discussed].—Engg. & Cont. Aug. 16 1916; p 160; pp 1½; 20c.

Molesworth, Guilford L.—*Pocket Book of Engineering Formulae*. [Information on civil, mechanical and electrical engineering work].—Spon & Chamberlain, N. Y.; book; pp 986*; \$1.50.

Morrison, C. J.—*Belts—Their Selection and Care*. [Thoroughly practical information with no theory or formulas].—Engg. Mag. July 1916; p 567; pp 19*; 35c.

Richards, J. H.—*Federal Control of*

Water Power.—Mg. Cong. Jnl. Oct. 1916; p 135; pp 6; 35c.

Richards, Frank.—*Some Notes on Belting*. [On the proper size of belt to use; required tension; short belt drives, etc.].—Pract. Eng. Nov. 15 1916; p 949; pp 2*; 20c.

Schaphorst, W. F.—*Economy of Solid Woven Belts*.—E. & M. J. Oct. 21 1916; p 747; pp 1¼*; 25c.

Taylor, M. T.—*Deep-Lead and Drift Mining in Victoria, Australia*. [Describes methods and details of methods used in going underground for gravel].—Mg. Mag. Oct. 1916; p 207; pp 12*; 50c.

Thomson, Lesslie R.—*High-Tension Transmission Lines and Steel Towers*. [Deals with operating costs, loads on the towers, etc.].—Canadian Eng. Nov. 30 1916; p 445; pp 1¾*; 35c.

——— *Coal Miners' Pocketbook*.

[Gives rules, principles, formulas and tables].—McGraw-Hill Co.; book; pp 1172*; \$4.

——— *Diesel Engines Versus Steam Turbines for Mine Power Plants*. [Discussion of a paper by Herbert Haas].—A. I. M. E. Bull. 1916; p 2213; pp 9; 35c.

——— *Indicators for Engines*. [Information on their construction, operation and use].—Pract. Eng. Nov. 1 1916; p 915; pp 3¾*; 20c.

——— *Power Plant of the Burro Mountain Copper Co., New Mexico*. [Discussion of a paper by Chas. Legrand].—A. I. M. E. Bull. Dec. 1916; p 2181; pp 2½; 35c.

——— *Purchase and Inspection of Leather Belting*. [From the American Machinist, being a general discussion of the subject].—E. & M. J. Sept. 23 1916; p 549; pp 1¼; 25c.

PART IV.

MISCELLANEOUS.*

CHAPTER XX.

MISCELLANEOUS COSTS

Alderson, G. F.—*A Reservoir and Pump-house*. [Describes the construction of the installation and itemization of costs].—E. & M. J. Sept. 23 1916; p 547; pp 1¼*; 25c.

Capron, W. C.; Kuzell, C. R.—*Metal-lurgical Works Tramways*. [Reviews and discusses the use of different types of locomotives used about smelters and in some cases gives cost data on their operation].—E. & M. J. Oct. 7 1916; p 613; pp 8*; 25c.

Clapp, W. B.—*Motor Truck Development and Use in Southern California*. [A very complete table is given showing the cost of operating gasoline motor trucks at various mileages].—Mg. & Oil Bull. Sept. 1916; p 222; pp 6; 25c.

Clapp, W. B.—*Motor Truck Development*. [Abstract of a paper read before the A. I. of Mech. Eng. A table showing operating costs for trucks making various mileages per day is given].—Mg. Jnl. Nov. 4 1916; p 735; pp 1¼; 35c.

Clark, Earl S.—*Practical Costs*. [A talk and description of methods by which the actual cost of a product may more accurately be determined].—Industrial Management Dec. 1916; p 299; pp 6¼*; 35c.

Cox, Thomas.—*Methods and Costs of Producing Crude Petroleum in California*. [Details are given with both tables, description and curves].—West. Engg. Sept. 1916; p 347; pp 6¼*; 25c.

Foote, Frederick W.—*Estimating Construction Costs*. [The present status of estimating, with examples from practice based on the ratio of labor and materials entering into the work].—E. & M. J. Nov. 11 1916; p 857; pp 3¼; 25c.

Gochnauer, H. W.—*Pumping Costs with Diesel Engines*.—Engg. Rec. April 1 1916; 20c.

*Includes Miscellaneous Costs; Testing; Waste Disposition; Metallography; Law; Legislation and Taxation; Conservation; Government Ownership; Historical; Financial and Business Organization; Educational; Schools and Societies; General Miscellaneous.

Gould, Harry J.—*A Simple and Efficient Cost Keeping System for Concrete Construction*. [Both forms and descriptive information are given].—Engg. & Cont. Aug. 30 1916; p 199; pp 3; 20c.

Haas, Herbert.—*Diesel Engines Versus Steam Turbines for Mine Power Plants*. [Compares the advantages and costs of operating each with respect to generating electricity. Details on fuel costs are given].—Bull. A. I. M. E. July 1916; p 1171; pp 13*; 35c.

Hood, B. B.—*Proper Current Densities*. [Curves are given from which the proper current density for both steel and copper transmission lines may be found, together with some costs related thereto].—Met. & Chem. Engg. Nov. 15 1916; p 571; pp 2¼*; 35c.

Hubbard, Charles L.—*Operating Costs in Combined Power and Heating Plants*.—Engg. Mag. Sept. 1916; p 869; pp 10; 35c.

Luscomb, H. T.—*How to Select Prime Movers for Industrial Electrical Generating Plants*. [A discussion and detailed data on generating electricity from steam plants].—Engg. Mag. Aug. 1916; p 705; pp 11½*; 35c.

Mason, J. K.—*How to Study Factory Efficiency*. [The methods and ideas are of a nature which makes them possible of application to the studying of efficiency in any operating body].—Engg. Mag. July 1916; p 542; pp 5½*; 35c.

McBride, W. G.—*Motor Truck Operation at Mammoth Collins Mine, Shultz, Arizona*. [Some costs of operation are given].—Bull. A. I. M. E. July 1916; p 1253; pp 4; 35c. M. & S. P. July 8 1916; p 45; pp 2; 20c. Mg. World July 22 1916; p 145; pp 1¼; 10c.

McDonald, P. B.—*Two Great Copper Mines Compared*. [Compares operations, production, etc., of the Calumet and Heccla and Nevada Con. Co.].—M. & S. P. Sept. 1916; p 391; pp 1¼; 20c.

Musser, H. P.; Lamb, F. B.—*Practical Considerations Relative to Purchased Power*. [Gives curves and discussion comparing the advisability of purchased power over power generated at the mine].—Coal Age July 1 1916; p 15; pp 2*; 20c.

Potter, A. A.; Buck, W. A.—*Internal Combustion Engines as Applied to Tractors*. [A paper read before the A. S. M. E.].—Pract. Eng. Dec. 15 1916; p 1031; pp 1½; 20c.

Richards, Frank.—*Some Notes on Belting*. [Abst. from Practical Engineer. Reviews faults in this method of power transmission and gives remedies for the same].—Comp. Air Sept. 1916; p 8099; pp 3½*; 20c.

Sale, A. J.—*Drilling and Analysis of Copper Ores*. [A general discussion of errors made from taking averages of churn-drill hole samples. Also speaks of the sulpho-cyanide assay of copper].—E. & M. J. July 8 1916; p 87; pp 3¼; 25c.

Sheldon, Walter H.—*Uniform Cost Systems*. [A general discussion of ideas now in practice in cost work].—National Lime Mfg. Assn. Bull. 18; pp 8;

Smith, George Otis; Leshner, C. E.—*Expert's View on Cost of Coal*. [Met. & Chem. Engg. Dec. 1 1916; p 631; pp 4¼; 35c. A paper read before the American Mg. Cong. advocating that costs should be more accurately kept and speaking of government operation of the mines].—C. Tr. Bull. Dec. 1 1916; p 25; pp 4; 25c.

Trautschold, Reginald.—*The Economics of Material Handling in Manufacturing Plants*. [Costs, details and curves of use in designing are given of standard practice in belt-conveying].—Engg. Mag. Aug. 1916; p 734; pp 13*; 35c.

—*Analysis of Merrill Report on Water-Power*. [Comment on this government report is made saying that the information and conclusions are at error].—Elect. World July 1 1916; pp 20; 40c.

—*Antimony Ore in Southern Rhodesia*. [Types of occurrences and methods for calculating shipments and cost of the same are explained].—S. Afr. Mg. Jnl. Aug. 19 1916; p 465; pp 1; 35c.

—*Canadian Mining Corporation*. [Cost and other details of operation].—E. & M. J. Aug. 19 1916; p 348; pp 1¼; 25c.

—*Construction and Operating Data on Diesel Engines*. [From a report of the committee on Prime Movers of the N. E. L. A., giving information for making estimates and curves for rapid calculation].—Pract. Eng. Nov. 15 1916; p 957; pp 1; 20c.

—*Cost of Coal and Oil as Fuel*. [Abst. from Power. The cost of steam per pound is given, with the evaporation per pound of coal and B. T. U. per gallon of oil].—E. & M. J. July 8 1916; p 93; pp 1¼*; 25c.

—*Pipe-Line Transportation of*

Petroleum. [Full financial, cost, construction and operation accounts of various pipe lines in U. S. are given].—U. S. Federal Trade Commission Report; pp 467*.

—*Prices of Machinery for Mines*. [The average prices for mine equipment are plotted in curves for separate classes of machinery, according to the size and capacity].—Coal Age July 1 1916; p 22; pp 3*; 20c.

TESTING

Abrams, D. A.—*A Method of Making Wear Tests of Concrete*. [A paper read before the American Soc. for Testing Materials. The method, machine and results of some tests are given].—Canadian Eng. Dec. 21 1916; p 512; pp 2¼*; 35c.

Addicks, Lawrence.—*Possibilities in the Wet Treatment of Copper Concentrates*. [The method tested and described here consists of roasting and then leaching].—Bull. A. I. M. E. Sept. 1916; p 1565; pp 9*; 35c; Met. & Chem. Engg. Dec. 1 1916; p 628; pp 3*; 35c.

Addicks, Lawrence.—*The Wet Treatment of Copper Concentrates*. [A paper read before the A. I. M. E. The ore is roasted and leached with sulphuric acid].—M. & S. P. Oct. 28 1916; p 630; pp 2¼*; 20c.

Arnou, G.; Portevin, A.—*Le Traitement Thermique du Bronze D'Aluminium a 10% D'Aluminium*. [On the thermic treatment and properties of bronze containing 10% aluminum].—Metallurgie, French April 1916; p 101; pp 15*; 75c.

Avery, Paul W.—*The Importance of Efficient Settling of Slime*. [Tables and curves showing the results of tests are reproduced and discussion of the results made].—M. & S. P. Nov. 18 1916; p 738; pp 4¼*; 20c.

Belaiew, N. I.; Goudstow, N. T.—*Sur La Limite Elastique de L'Acier*. [From Revue de la Soc. Russe de Metallurgie on the elastic limit and other physical properties of steel under varying conditions].—Metallurgie, French; p 116; pp 33*; 75c.

Belchic, George; Neal, Roy O.—*Surface Tension of Oil-Water Emulsions—A Flotation Theory*. [The surface tension of emulsions acid, alkaline and neutral, are given for varying amounts of different kinds of oils, as determined by the capillary method].—Mg. World Sept. 16 1916; p 487; pp 3*; 10c.

Benedicks, Carl.—*A New Thermo-Electric Method of Studying Allotropic Changes in Iron or Other Metals*. [Abst. from a paper read before the British Iron

& Steel Inst.].—Met. & Chem. Engg. Sept. 15 1916; p 337; pp 3; 35c.

Blickenderfer, F. C.—*A Comparative Test of the Marathón, Chilean and Harding Mills*. [Tests made at the Detroit Copper Co.'s plant, Morenci, Ariz.].—Bull. A. I. M. E. Aug. 1916; p 1333; pp 16*; 35c.

Campbell, Edward D.—*The Influence of Heat Treatment on the Thermo-Electric Properties and Specific Resistance of Carbon Steels*. [The results and nature of the tests are described and 8 curves are reproduced showing the results of these and other tests].—Iron & Steel Inst. Adv. Copy 2; pp 18*; 50c.

Clayton, C. Y.—*Experiments from the Flotation Laboratory*. [Considerable of the text has to do with the nature of different oils. Description of laboratory flotation machines and tests made on different ores are also given].—Mo. School of Mines Bull. Aug. 1916; pp 40*.

Clayton, Charles Y.—*Sizing Flotation Concentrates*. [Abstract from an article in the Bulletin of the Missouri School of Mines, in which the results of tests made are given and discussed].—E. & M. J. Nov. 11 1916; p 867; pp ¾; 25c.

Clevenger, G. H.; Morgan, Harry.—*Atmospheric Decomposition of Cyanide Solutions*. [Detailed results, tabulated data, description and curves relating to the loss of cyanide resulting from the atmosphere].—M. & S. P. Sept. 16 1916; p 413; pp 12*; 20c.

Corse, W. M.; Comstock, G. F.—*Tests of Aluminum Bronze*. [Abst. from a paper read before the American Soc. for Testing Materials. Curves are shown, and it is stated that a double heat treatment increases the resistance to alternating stresses].—Iron Age July 13 1916; p 80; pp 1¼*; 30c.

Corse, W. M.; Comstock, G. F.—*Some Copper-Aluminum-Iron Alloys*. [Deals with the physical properties and nature of the alloy. A metallographic review of the alloys and the results of physical tests are given].—American Inst. of Metals Adv. Paper 14; pp 16*; 35c.

Dudley, Boyd, Jr.—*The Thermal Conductivity of Refractories*. [Data, tests and formulas for making computations with are given].—Amer. Electrochem. Soc. Adv. Paper 2; p 44*; 35c.

Eames, Luther B.—*Countercurrent Decantation*. [This article is also in the Bulletin of the Canadian Mg. Inst. The results of many tests are plotted into curves, showing the effect of many of the variables in the process on its efficiency].

—A. I. M. E. Bull. Dec. 1916; p 2087; pp 15*; 35c.

Edmands, H. R.—*Some Notes on the Effect of Lead Salts and of Varying Degree of Alkalinity on the Solvent Power of Cyanide Solution for Gold*. [The results of tests are tabulated and described]. Jnl. Chamber of Mines West Aust. April 29 1916; p 63; pp 8; 75c.

Egloff, G.; Twomey, T. J.; Moore, Robert J.—*The Effect of Temperature and the Time Factor in the Formation of Gasoline in the Gas Phase at Constant Pressure*. [The testing was mostly done with a Pennsylvania crude petroleum oil].—Jnl. of Ind. & Engg. Chem. Dec. 1916; p 1102; pp 3¼*; 60c.

Feild, Alexander L.—*A Method for Measuring the Viscosity of Blast Furnace Slag at High Temperatures*. [The methods of testing and some results, with a description of the apparatus used are contained].—U. S. Bur. of Mines Tech. Paper 157; pp 29*; 15c.

Fischer, Sigfried, Jr.—*Contributions to the Knowledge of the Electrolysis of Aqueous Solutions of Vanadium Salts*. [Gives the results of previous investigations, showing the behavior of vanadium and its salts under various conditions, specially in solution as an electrolyte].—American Electrochem. Soc. Adv. Paper 9, p 119; pp 45*; 35c.

Flaherty, B. G.—*Testing for Defective Insulators on High Tension Transmission Lines*. [Describes methods and apparatus used].—Proc. American Inst. of Elect. Eng. Aug. 1916; p 1221; pp 15*; 35c.

Fulton, A. D.; Parlett, R. C.—*The Effect of Surface Conditions Upon the Rate of Heat Transmission Through Steam Pipe Coverings*. [A thesis on the rate of heat transmission as noted from tests].—Wis. Eng. Nov. 1916; p 67; pp 8*.

Gahl, Rudolf.—*History of the Flotation Process at Inspiration, Arizona*. [Describes tests made and methods adopted with the results obtained in each. The paper is complete and gives details].—Bull. A. I. M. E. Sept. 1916; p 1627; pp 54*; 35c; Met. & Chem. Engg. Oct. 1 1916; p 393; pp 12½*; 35c.

Gillett, H. W.; James, G. M.—*Melting Aluminum Chips*. [Tests and methods of smelting, particularly in the electric furnace. Methods of testing and practical methods of procedure are given].—U. S. Bur. of Mines Bull. 108; pp 88; 20c.

Guess, G. A.; Lathe, F. E.—*An Investigation Into the Flowing Temperatures of Copper Mattes and of Copper-Nickel Mattes*. [A number of tests and investigations to determine the temperature at

- which the two mattes will flow].—Bull. A. I. M. E. June 1916; p 1067; pp 6*; 35c.
- Harger, F. D.—*Gas Analysis Applied to Brick Kilns*. [With the results of analysis and tests, utilization of waste heat and kiln economy are dealt with].—B. & C. Rec. Nov. 7 1916; p 803; pp 3; 35c.
- Hicks, W. B.—*Simple Tests for Potash*.—M. & S. P. Aug. 5 1916; p 207; pp 1½; 20c.
- Howland, H. P.—*Calculations with Reference to the Use of Carbon in Modern American Blast Furnaces*. [Discussion giving results of thermic tests and chemical reactions].—Bull. A. I. M. E. July 1916; p 1245; pp 7; 35c.
- Hubbard, Prévost; Jackson, F. H., Jr.—*The Results of Physical Tests of Road-Building Rock*. [Gives nature and results of tests with location of place from which sample was obtained].—U. S. Dept. of Agric. Bull. 370; pp 100*.
- Hicks, W. B.—*Simple Tests for Potash*. [In general the test consists of flame coloration peculiarities].—American Fertilizer Sept. 16 1916; p 30; pp 1¼; 25c.
- Hood, W. W.; Knox, G.; Evans, E. C.—*South Wales Coal Dust Experiments*. [A paper read before the South Wales Colliery Officials' Assn.].—Coll'y Guard. Aug. 11 1916; p 256; pp 1½*; 35c.
- Johnston, A. M.—*Testing of Conveyor Belts*. [Abst. from a paper read before the South African Inst. of Eng.].—Met. & Chem. Engg. Sept. 1 1916; p 262; pp 2½*; 35c.
- Jones, T. R.—*Pine Oil for Flotation Purposes*. [On the experiments made to ascertain the proper destructive distillation of Norway pine for flotation oils].—Canadian Mg. Inst. Bull. Oct. 1916; p 882; pp 2; 35c.
- June, Robert.—*Insuluminum*. [Tests and description of a new ferro-aluminum alloy with great heat resisting properties].—Pract. Eng. Nov. 1 1916; p 924; pp 2*; 20c.
- Karr, C. P.—*Report on a Series of Comparative Tests of Zinc-Bronze (88 Cu-10 Sn-2 Zn) Standard Test Bars*. [Deals entirely with physical tests and the results obtained].—American Inst. of Metals Adv. Paper 16; pp 12; 35c.
- Kalmus, Herbert T.; Blake, K. B.—*Magnetic Properties of Cobalt and Cobalt-Iron Alloy*. [Describes a number of tests].—Canada Dept. of Mines No. 413; pp 18*.
- Lasier, E. L.—*The Strength of Clamped Splices in Concrete Reinforcement Bars*. [Abstract of a paper read before the A. S. of Testing Materials. Curves and the results and nature of tests are described].—Canadian Eng. Nov. 9 1916; p 373; pp 2¼*; 35c.
- Legrand, Charles.—*Power Plant of the Burro Mountain Copper Co., New Mexico*. [Electric power generated by direct connection to Diesel engines is used].—Bull. A. I. M. E. Sept. 1916; p. 1531; pp 8*; 35c.
- Lehman, George R.—*Ore Drawing Tests and the Resulting Mining Method of the Inspiration Consolidated Copper Co., Arizona*. [Describes the caving system and the tests which led to its adoption].—Bull. A. I. M. E. Sept. 1916; p 1501; pp 14*; 35c.
- Lucht, F. W., Jr.—*A Study of the Compressor Indicator Diagram*. [Discusses theory principally].—Colo. School of Mines Q'tly July 1916; p 16; pp 4*; 35c.
- McDowell, J. Spotts.—*A Study of the Silica Refractories*. [Published by permission of the Massachusetts Inst. of Tech.].—Bull. A. I. M. E. Nov. 1916; p 1999; pp 57*; 35c.
- McMillan, Franklin R.—*Time Tests of Concrete*. [A paper read before the Engineers' Club of St. Louis. Curves and the results of tests are given].—Canadian Eng. Sept. 14 1916; p 211; pp 4¼*; Sept. 21 1916; p 231; pp 4*; 70c.
- Mann, Horace, T.; Clayton, C. Y.—*Cupellation Losses in Assaying*. [Contains considerable tabulated data and curves].—Mo. School of Mines Bull. II:3; pp 60*.
- Mathewson, C. H.; Thalheimer, E. M.—*Comparisons Between Electrolytic and Two Varieties of Arsenical Lake Copper with Respect to Strength and Ductility in Cold-Worked and Annealed Test Strips*. [The results are tabulated and the nature of each test is described].—Bull. A. I. M. E. July 1916; p 1185; pp 40*; 35c.
- Megraw, Herbert A.—*The Flotation Process*. [On the theory, practice and testing of the process, with descriptions of installed plants].—McGraw-Hill Book Co.; book; pp 249*; \$2.50.
- Morse, H. W.; Tobelmann, H. A.—*Leaching Tests at New Cornelia, Arizona*. [Different methods and the results of tests are dealt with].—Bull. A. I. M. E. Sept. 1916; p 1593; pp 18*; 35c.
- Morse, E. C.—*Electrolytic Precipitation*. [Gives details of equipment and methods used in operating and testing a combination cyanide and amalgamation system as regards depositing the gold and silver with electricity].—M. & S. P. Oct. 28 1916; p 622; pp 2¾*; 20c.
- Mossman, R. L.—*Construction of Com-*

bustion Instruments. Describes methods for making gas analyzer and draft gage].—Pract. Eng. Aug. 15 1916; p 697; pp 1½*; 20c.

Nebel, Merle L.—*Specific Gravity Tests of Illinois Coals.* [On the way in which the tests were made and the results as obtained with Illinois coals].—Univ. Ill. Bull. 89; pp 49*.

Nesbit, C. E.; Bell, M. L.—*Testing Refractory Fire Brick.* [Abstract of a paper read before the American Soc. for Testing Materials].—E. & M. J. Dec. 2 1916; p 967; pp ¾; 25c.

Nesbitt, C. E.; Bell, M. L.—*How to Conduct Fire Brick Tests.* [A paper read before the American Soc. for Testing Materials].—I. Tr. Rev. July 13 1916; p 71; pp 7*; 25c.

Nesbitt, C. E.; Bell, M. E.—*Practical Methods for Testing Refractory Fire Brick.* [A paper read before the American Society for Testing Materials].—B. & C. Rec. Aug. 1 1916; p 221; pp 4*; 35c. Chem. Engg. Aug. 15 1916; p 205; pp 7¼*. B. & C. Rec. Aug. 15; p 312; pp 4*; 35c.

Northrup, E. F.; Sherwood, R. G.—*New Method of Measuring Resistivity of Molten Materials: Results for Certain Alloys.* [Gives complete details of the method of procedure and results in some cases].—Jnl. Franklin Inst. Oct. 1916; p 77; pp 35*; 60c.

Pettibone, C. E.—*Testing Mine Rescue Apparatus.* [Abstract of a paper read before the National Safety Council. Advocates testing breathing apparatus with 5 ozs. internal pressure.].—Coal Age Nov. 25 1916; p 875; pp 2½*; E. & M. J. Dec. 2 1916; p 985; pp 2½*; 45c.

Phalen, W. C.; Hicks, W. B.—*Potash Salts in 1915.* [Chemical qualitative tests and methods of analysis are also given. The economic geology and occurrence of this mineral are reviewed, with an account of the progress made in developing the resource in this country].—Min. Res. of U. S. II:12; pp 39.

Phalen, W. C.; Hicks, W. B.—*Phosphate Rock in 1915.* [On the market, production, methods of making soluble phosphates and chemical tests for the mineral].—Min. Res. of U. S. II:18; pp 18.

Porter, J. B.—*An Investigation of the Coals of Canada.* [Tests conducted at McGill Univ. with reference to the economic properties of the coal].—Canada Dept. of Mines Form No. 338; pp 194*.

Price, William B.; Davidson, Philip.—*Physical Tests on Common High Brass Taken Parallel and at Right Angles to the*

Direction of Rolling. [The results and nature of the physical tests under varying conditions with a metallographic review is given].—American Inst. of Metals Adv. Paper 12; pp 32*; 35c.

Pringle, L. B.—*Chart for Flotation Testing.* [A reproduction of the chart, with explanation and formulas is given].—E. & M. J. Oct. 21 1916; p 749; pp 1¾*; 25c.

Ralston, O. C.; Allen, Glen L.—*The Flotation of Oxidised Ores.* [Discusses problems encountered in flotating different kinds of oxide ores. The results of some tests are given].—Mg. World July 22 1916; p 137; pp ¾; 10c.

Rawdon, Henry S.—*Standard Test Specimen of Zinc-Bronze.* [Relations of mechanical properties to microstructure are taken up in detail].—Trans. American Inst. of Metals Vol. IX; p 60; pp 22*; 35c.

Robinson, Heath M.—*Ozokerite in Central Utah.* [Treats on the geology, genesis and tests for determining the mineral with descriptions of properties and methods used].—U. S. G. S. Bull. 641-A; pp 16*.

Rosa, E. B.; Vinal, G. W.—*Volume Effect in the Silver Voltameter.*—U. S. Bur. of Stand. Sci. Paper 283; pp 11*; 15c.

Rose, Hugh.—*Metallurgical Experiments at Santa Gertrudis Mill, Pachuca, Mexico.* [Abst. from A. I. M. E. Bull. Flotation and electrolytic regeneration of cyanide are discussed].—E. & M. J. Aug. 5 1916; p 263; pp 2*; 25c.

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Shellshear, W.—*Flotation at the Mt. Morgan Mine, Queensland, Australia.* [A paper read before the Aust. Inst. of Mg. Eng. Operations are described though tests are given more consideration].—Mg. World Oct. 28 1916; p 741; pp 3; Dec. 2 1916; p 947; pp 1½; 20c.

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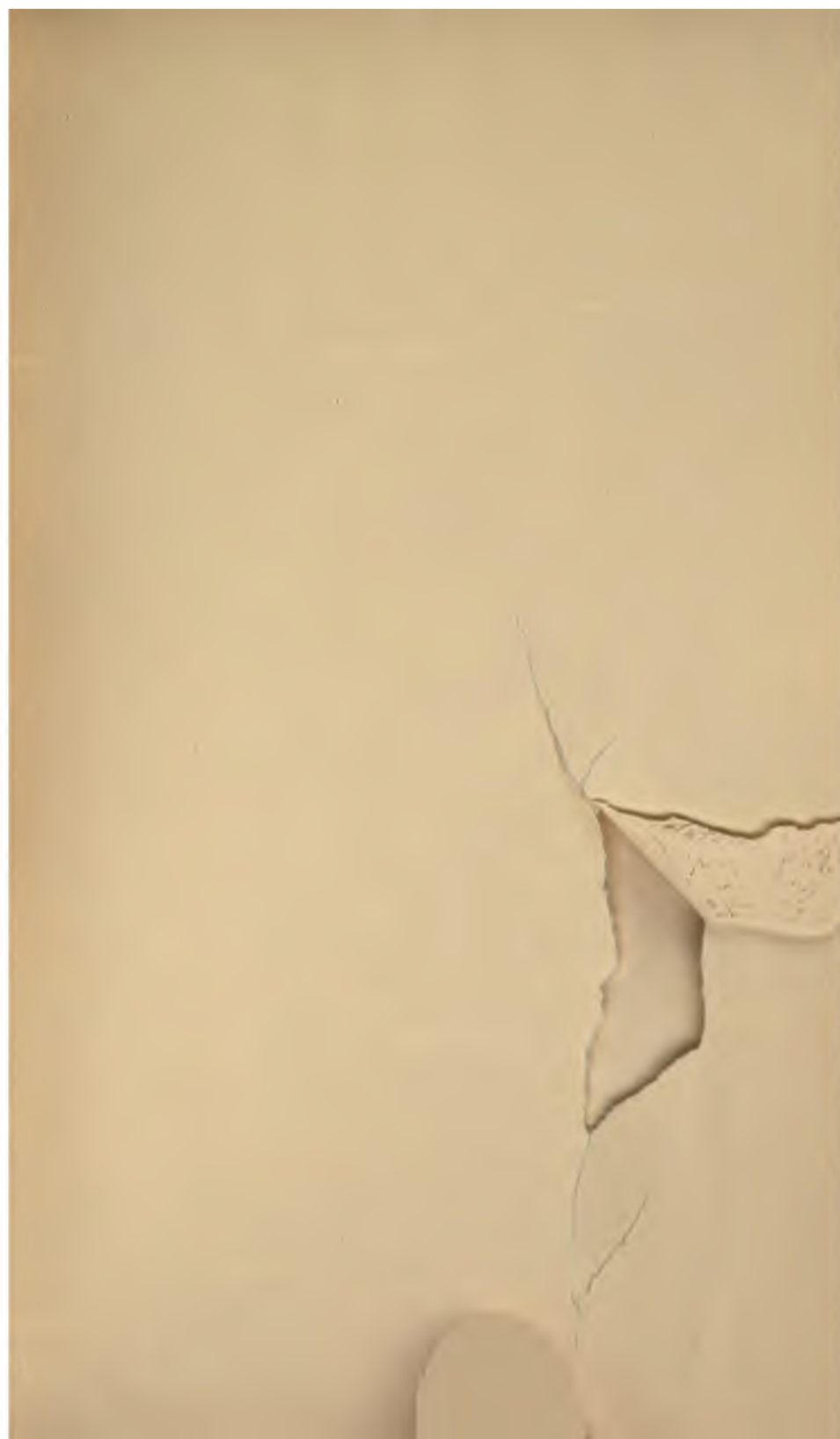
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